



STIC Search Report

EIC 1700

STIC Database Tracking Number: 150464

TO: Duc Truong

Location: REM 10D71

Art Unit : 1711

April 22, 2005

Case Serial Number: 10/714356

From: Kathleen Fuller

Location: EIC 1700

REMSEN 4B28

Phone: 571/272-2505

Kathleen.Fuller@uspto.gov

Search Notes

I tried to do this search to find a non-polymer of A and B but it would not run. So I did a Casreact search to find the product C. There were only 2 answers and they did not show the structures of the reactions. Then I did a structure search a query covering C. I combined the answers with preparation and monomer? For 41 CA references.

The case 10/713469 I had to search like a polymer or it would not run. I searched for it by the monomers A, B and D.



STIC Search Results Feedback Form

EIC17000

Questions about the scope or the results of the search? Contact **the EIC searcher or contact:**

**Kathleen Fuller, EIC 1700 Team Leader
571/272-2505 REMSEN 4B28**

Voluntary Results Feedback Form

- *I am an examiner in Workgroup:* Example: 1713
- *Relevant prior art found, search results used as follows:*
 - 102 rejection
 - 103 rejection
 - Cited as being of interest.
 - Helped examiner better understand the invention.
 - Helped examiner better understand the state of the art in their technology.

Types of relevant prior art found:

- Foreign Patent(s)
- Non-Patent Literature
(journal articles, conference proceedings, new product announcements etc.)

➤ *Relevant prior art not found:*

- Results verified the lack of relevant prior art (helped determine patentability).
- Results were not useful in determining patentability or understanding the invention.

Comments:

Drop off or send completed forms to EIC1700 REMSEN 4B28



TRUONG 10/714356 4/22/05

=> file casreact
FILE 'CASREACT' ENTERED AT 14:43:15 ON 22 APR 2005
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FILE CONTENT:1840 - 17 Apr 2005 VOL 142 ISS 16

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*
* CASREACT now has more than 8 million reactions *
*

Some CASREACT records are derived from the ZIC/VINITI database (1974-1991) provided by InfoChem, INPI data prior to 1986, and Biotransformations database compiled under the direction of Professor Dr. Klaus Kieslich.

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> d que

L5 STR

RCT *reactent* PROduct ✓
HO~G3~OH → Cb—G1—Cb—O—G2—O—Cb—G1—Cb
14 15 16 1 2 3 4 5 6 7 8 9
Cb—C—Cb
@10 11 @12

Cb @13

REP G1=(0-2) A
VAR G2=13/10-4 12-6
VAR G3=13/10-14 12-16
NODE ATTRIBUTES:
NSPEC IS RC AT 11
DEFAULT MLEVEL IS ATOM
GGCAT IS UNS AT 1
GGCAT IS UNS AT 3
GGCAT IS UNS AT 7
GGCAT IS UNS AT 9
GGCAT IS UNS AT 10
GGCAT IS UNS AT 12
GGCAT IS PCY UNS AT 13
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 16

STEREO ATTRIBUTES: NONE
L8 SCR 1843
L12 SCR 1136

KATHLEEN FULLER EIC 1700 REMSON 4B28 571/272-2505

SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: TRUONG, Hc Examiner #: 69339 Date: 4/11/05
 Art Unit: 171 Phone Number 302-1581 Serial Number: 10714356
 Mail Box and Bldg/Room Location: 1071 Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: _____

Inventors (please provide full names): _____

SCIENTIFIC REFERENCE BR
Sci & Tech Inf Ctr

APR 12 REC'D

Earliest Priority Filing Date: _____

For Sequence Searches Only Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

Please search ^{A+B} ^{C + D} of claim 1, to form
the product in claim 17 of 6/713, 469. Thanks

STAFF USE ONLY

Searcher: K. Fullin

Searcher Phone #: _____

Searcher Location: _____

Date Searcher Picked Up: 7/22/05

Date Completed: 7/22/05

Searcher Prep & Review Time: 80

Clerical Prep Time: _____

Online Time: 52

Type of Search

NA Sequence (#) _____

AA Sequence (#) _____

Structure (#) 6 _____

Bibliographic _____

Litigation _____

Fulltext _____

Patent Family _____

Other _____

Vendors and cost where applicable

STN ✓ _____

Dialog _____

Questel/Orbit _____

Dr. Link _____

Lexis/Nexis _____

Sequence Systems _____

WWW/Internet _____

Other (specify) _____

TRUONG 10/714356 4/22/05

L14

2 SEA FILE=CASREACT SSS FUL L5 AND L8 AND L12 (

7 REACTIONS)

2 CA references

with reaction

=> d 114 bib abs crd

L14 ANSWER 1 OF 2 CASREACT COPYRIGHT 2005 ACS on STN

AN 136:70061 CASREACT

TI A useful bicyclic topological decapeptide template for solution-phase combinatorial synthesis of tetrapodal libraries

AU Xu, Q.; Borremans, F.; Devreese, B.

CS Department of Organic Chemistry, University of Ghent, Ghent, 9000, Belg.

SO Tetrahedron Letters (2001), 42(41), 7261-7263

CODEN: TELEAY; ISSN: 0040-4039

PB Elsevier Science Ltd.

DT Journal

LA English

AB An orthogonally protected bicyclic decapeptide has been constructed and evaluated as a template for combinatorial synthesis. This peptide, bicyclo(KCKPGKCKPG), has four (quasi) orthogonal protecting groups (Fmoc, Boc, Aloc and Dde), allowing site-selective assembly of building blocks. This template is found most useful for solution-phase combinatorial synthesis of tetrapodal libraries. Four groups of three different amino acids yielded all theor. expected 27x3 library compds.

RX(1) OF 3 - REACTION DIAGRAM NOT AVAILABLE

RX(2) OF 3 - REACTION DIAGRAM NOT AVAILABLE

RX(3) OF 3 - REACTION DIAGRAM NOT AVAILABLE

RE.CNT 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> d 114 bib abs crd 2

L14 ANSWER 2 OF 2 CASREACT COPYRIGHT 2005 ACS on STN

AN 114:82583 CASREACT

TI Ethynyl-terminated ethers. Synthesis and thermal characterization of 2,2-bis(4-ethynyl-4-phenylcarbonyl-4-phenoxyphenyl)propane and 2,2-bis(4-ethynyl-4-phenylsulfonyl-4-phenoxyphenyl)propane

AU Lucotte, Georges; Cormier, Laurent; Delfort, Bruno

CS Inst. Natl. Rech. Chim. Appl., Vert-le-Petit, F-91710, Fr.

SO Polymer Bulletin (Berlin, Germany) (1990), 24(6), 577-82

CODEN: POBUDR; ISSN: 0170-0839

DT Journal

LA English

AB The title ethers were each prepared by a three-step synthesis. Thermal polymerization of the ethers occurred at 200-250°.

RX(3) OF 6 - REACTION DIAGRAM NOT AVAILABLE

RX(4) OF 6 - REACTION DIAGRAM NOT AVAILABLE

RX(5) OF 6 - REACTION DIAGRAM NOT AVAILABLE

RX(6) OF 6 - REACTION DIAGRAM NOT AVAILABLE

KATHLEEN FULLER EIC 1700 REMSON 4B28 571/272-2505

TRUONG 10/714356 4/22/05

=>

KATHLEEN FULLER EIC 1700 REMSON 4B28 571/272-2505

TRUONG 10/714356 4/22/05 Page 1

=> file reg
FILE 'REGISTRY' ENTERED AT 15:57:51 ON 22 APR 2005
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STRUCTURE FILE UPDATES: 21 APR 2005 HIGHEST RN 848979-49-7
DICTIONARY FILE UPDATES: 21 APR 2005 HIGHEST RN 848979-49-7

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*
* The CA roles and document type information have been removed from *
* the IDE default display format and the ED field has been added, *
* effective March 20, 2005. A new display format, IDERL, is now *
* available and contains the CA role and document type information. *
*

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more
information enter HELP PROP at an arrow prompt in the file or refer
to the file summary sheet on the web at:
<http://www.cas.org/ONLINE/DBSS/registryss.html>

=> file hcaplu
FILE 'HCAPLUS' ENTERED AT 15:57:55 ON 22 APR 2005
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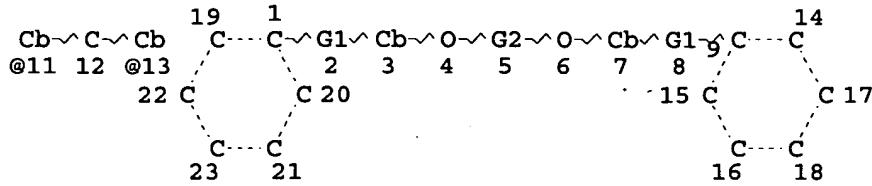
FILE COVERS 1907 - 22 Apr 2005 VOL 142 ISS 18
FILE LAST UPDATED: 21 Apr 2005 (20050421/ED)

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This file contains CAS Registry Numbers for easy and accurate
substance identification.

=> d que

L5 SCR 1843
 L7 SCR 2043
 L9 SCR 1136
 L11 STR



Cb @10

424 structures covering
 C

REP G1=(0-2) A

VAR G2=10/11-4 13-6

NODE ATTRIBUTES:

NSPEC IS RC AT 12
 DEFAULT MLEVEL IS ATOM
 GGCAT IS UNS AT 3
 GGCAT IS UNS AT 7
 GGCAT IS PCY UNS AT 10
 GGCAT IS UNS AT 11
 GGCAT IS UNS AT 13
 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RSPEC I

NUMBER OF NODES IS 23

STEREO ATTRIBUTES: NONE

L14 SCR 2005
 L16 SCR 1918
 L18 424 SEA FILE=REGISTRY SSS FUL L11 AND L5 AND L9 AND L14 NOT (L7 OR
 L16)
 L19 193 SEA FILE=HCAPLUS ABB=ON L18
 L20 132 SEA FILE=HCAPLUS ABB=ON L19(L) PREP/RL
 L21 41 SEA FILE=HCAPLUS ABB=ON L20 AND MONOMER?

=> d 121 1-41 bib abs ind hitstr

V

L21 ANSWER 1 OF 41 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2005:182735 HCAPLUS

DN 142:262690

TI Preparation of benzoxazole resin precursors for resin films with good heat
 resistance and semiconductor devices

IN Enoki, Takashi; Fujimoto, Masanori; Murayama, Mitsumoto

PA Sumitomo Bakelite Company Limited, Japan

SO PCT Int. Appl., 91 pp.

CODEN: PIXXD2

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2005019305	A1	20050303	WO 2004-JP11949	20040813
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH,				

CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD,
 GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,
 LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI,
 NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY,
 TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
 RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM,
 AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK,
 EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE,
 SI, SK, TR, BF, BJ, CF, CI, CM, GA, GN, GQ, GW, ML, MR, NE,
 SN, TD, TG

PRAI JP 2003-296367 A 20030820

AB Title precursor comprises first repeating units formed by reacting a bis-aminophenol compound having a functional group with a dicarboxylic acid. Thus, 38 g 5-bromoresorcinol and 109 g 2-benzylxy-4-fluoronitrobenzene were reacted, hydrolyzed with iodotrimethylsilane, reacted with ethynylbenzene, and reduced to give 1,3-bis(3-hydroxy-4-aminophenoxy)-5-phenylethynylbenzene, 38.2 g of which was reacted with 20.3 g terephthaloyl dichloride to give a precursor with Mn 21,000, the resulting precursor was dissolved in N-methyl-2-pyrrolidone, applied on a silicon wafer, heated at 90° for 1 min, 250° for 1 h, and 330° for 1 h to give a coating with glass transition temperature ≥450°, thermal decomposition temperature 550°, and dielec. constant 2.0.

IC ICM C08G073-22

ICS H01L021-312

CC 38-3 (Plastics Fabrication and Uses)

Section cross-reference(s): 35, 76

ST benzoxazole resin precursor film heat resistance semiconductor device prep; bromoresorcinol benzylxyfluoronitrobenzene ethynylbenzene reactant bishydroxyaminophenoxyphenylethynylbenzene monomer prep; bishydroxyaminophenoxyphenylethynylbenzene terephthaloyl dichloride copolymer coating prep

IT Polyamides, uses

Polybenzoxazoles

RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(cardo; preparation of benzoxazole resin precursors for resin films with good heat resistance and semiconductor devices)

IT Electric insulators

(coatings; preparation of benzoxazole resin precursors for resin films with good heat resistance and semiconductor devices)

IT Coating materials

(heat-resistant; preparation of benzoxazole resin precursors for resin films with good heat resistance and semiconductor devices)

IT Polyamides, preparation

RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)

(hydroxy-containing, precursors; preparation of benzoxazole resin precursors for

resin films with good heat resistance and semiconductor devices)

IT Polyethers, uses

RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(polyamide-, cardo; preparation of benzoxazole resin precursors for resin films with good heat resistance and semiconductor devices)

IT Polyethers, preparation

RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)

(polyamide-, hydroxy-containing, precursors; preparation of benzoxazole resin

precursors for resin films with good heat resistance and semiconductor devices)

IT Cardo polymers
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polyamide-polyethers; preparation of benzoxazole resin precursors for resin films with good heat resistance and semiconductor devices)

IT Cardo polymers
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polyamides; preparation of benzoxazole resin precursors for resin films with good heat resistance and semiconductor devices)

IT Polyethers, uses
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polybenzoxazole-, blend with polybenzoxazoles; preparation of benzoxazole resin precursors for resin films with good heat resistance and semiconductor devices)

IT Polyethers, uses
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polybenzoxazole-, cardo; preparation of benzoxazole resin precursors for resin films with good heat resistance and semiconductor devices)

IT Polyoxalkylenes, uses
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polybenzoxazole-; preparation of benzoxazole resin precursors for resin films with good heat resistance and semiconductor devices)

IT Cardo polymers
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polybenzoxazole-polyether-; preparation of benzoxazole resin precursors for resin films with good heat resistance and semiconductor devices)

IT Cardo polymers
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polybenzoxazoles; preparation of benzoxazole resin precursors for resin films with good heat resistance and semiconductor devices)

IT Polybenzoxazoles
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polyether-, blend with polybenzoxazoles; preparation of benzoxazole resin precursors for resin films with good heat resistance and semiconductor devices)

IT Polyamides, uses
Polybenzoxazoles
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polyether-, cardo; preparation of benzoxazole resin precursors for resin films with good heat resistance and semiconductor devices)

IT Polyamides, preparation
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT

(Reactant or reagent)
(polyether-, hydroxy-containing, precursors; preparation of benzoxazole resin
precursors for resin films with good heat resistance and semiconductor devices)

IT Semiconductor devices
(preparation of benzoxazole resin precursors for resin films with good heat resistance and semiconductor devices)

IT Polybenzoxazoles
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(preparation of benzoxazole resin precursors for resin films with good heat resistance and semiconductor devices)

IT 26010-74-2P 29186-77-4P 846543-91-7P 846543-92-8P
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(blend with polybenzoxazole; preparation of benzoxazole resin precursors for resin films with good heat resistance and semiconductor devices)

IT 23351-91-9P, 5-Bromoisophthalic acid 51760-21-5P, 5-Bromoisophthalic acid dimethyl ester 92176-81-3P 160156-30-9P, Dimethyl 5-(4-iodophenoxy)isophthalate 168619-21-4P 208657-08-3P, Dimethyl 5-(4-aminophenoxy)isophthalate 208657-09-4P 217655-36-2P 393543-03-8P, 4-[3,5-Bis(methoxycarbonyl)phenyl]-2-methyl-3-butyn-1-ol 393543-04-9P 393543-14-1P 406680-57-7P, 9,9-Bis(3-nitro-4-hydroxyphenyl)fluorene 432025-98-4P 722454-63-9P 753028-50-1P 753028-51-2P 753028-52-3P 753028-58-9P 753028-59-0P 753028-60-3P 753028-65-8P 753028-66-9P 846543-81-5P 846543-86-0P 846543-87-1P 846543-89-3P 846543-90-6P
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(intermediate in monomer preparation; preparation of benzoxazole resin precursors for resin films with good heat resistance and semiconductor devices)

IT 2351-36-2P, 2,6-Naphthalenedicarbonyl dichloride 6423-17-2P 92176-85-7P 359642-31-2P 393543-05-0P 562870-37-5P 753028-53-4P 753028-61-4P 846543-82-6P 846543-88-2P
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(monomer; preparation of benzoxazole resin precursors for resin films with good heat resistance and semiconductor devices)

IT 29186-69-4P 846543-95-1DP, reaction products with amino-containing polyoxyalkylenes 846543-95-1P 846543-96-2DP, reaction products with amino-containing polyoxyalkylenes 846543-96-2P 846543-97-3P
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(precursor; preparation of benzoxazole resin precursors for resin films with good heat resistance and semiconductor devices)

IT 9046-10-0DP, Polypropylene glycol bis(2-aminopropyl)ether, reaction products with polybenzoxazoles 780791-03-9DP, Ethylene oxide-propylene oxide triblock copolymer bis(2-aminopropyl)ether, reaction products with polybenzoxazoles 846543-79-1DP, reaction products with amino-containing polyoxyalkylenes 846543-79-1P 846543-80-4DP, reaction products with polybenzoxazoles 846543-80-4P 846543-83-7DP, reaction products with amino-containing polyoxyalkylenes 846543-83-7P 846543-84-8DP, reaction products with amino-containing polyoxyalkylenes 846543-84-8P 846543-85-9P 846543-93-9P 846543-94-0P
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(preparation of benzoxazole resin precursors for resin films with good heat resistance and semiconductor devices)

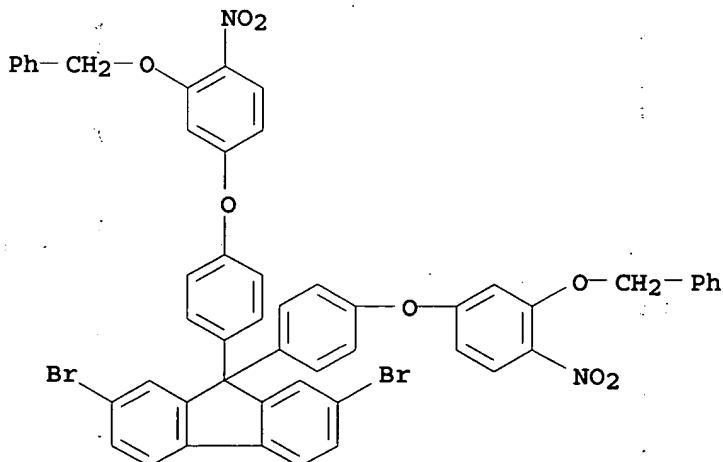
IT 115-19-5, 3-Methyl-1-butyn-3-ol 7697-37-2, Nitric acid, reactions
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (preparation of benzoxazole resin precursors for resin films with good heat resistance and semiconductor devices)

IT 67-56-1, Methanol, reactions 99-31-0, 5-Aminoisophthalic acid
 350-46-9, 4-Fluoronitrobenzene 358-23-6 536-74-3, Ethynylbenzene
 1141-38-4, 2,6-Naphthalenedicarboxylic acid 1965-09-9,
 4,4'-Dihydroxydiphenyl ether 3236-71-3, 9,9-Bis(4-hydroxyphenyl)fluorene
 6342-72-9, Dimethyl 2-hydroxyterephthalate 7681-11-0, Potassium iodide,
 reactions 7719-09-7, Thionyl chloride 7726-95-6, Bromine, reactions
 10035-10-6, Hydrobromic acid, reactions 13036-02-7, 5-Hydroxyisophthalic
 acid dimethyl ester 13185-00-7 20638-07-7, 9,9-Bis(3-amino-4-
 hydroxyphenyl)fluorene 106120-04-1, 5-Bromoresorcinol 129464-01-3
 169169-89-5, 9,9-Bis(4-hydroxyphenyl)-2,7-dibromofluorene
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reactant in monomer preparation; preparation of benzoxazole resin
 precursors for resin films with good heat resistance and semiconductor
 devices)

IT 753028-65-8P
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP
 (Preparation); RACT (Reactant or reagent)
 (intermediate in monomer preparation; preparation of benzoxazole resin
 precursors for resin films with good heat resistance and semiconductor
 devices)

RN 753028-65-8 HCAPLUS

CN 9H-Fluorene, 2,7-dibromo-9,9-bis[4-[4-nitro-3-
 (phenylmethoxy)phenoxy]phenyl]- (9CI) (CA INDEX NAME)



RE.CNT 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L21 ANSWER 2 OF 41 HCAPLUS COPYRIGHT 2005 ACS on STN
 AN 2004:738900 HCAPLUS
 DN 141:243966
 TI Bis(aminophenol) derivatives useful as monomers for
 heat-resistant condensation polymers
 IN Fujimoto, Masanori; Enoki, Naoshi
 PA Sumitomo Bakelite Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 24 pp.

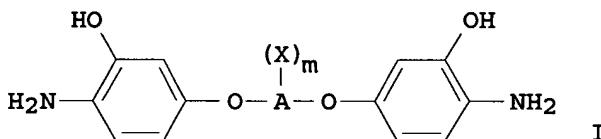
CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2004250438	A2	20040909	JP 2004-10371	20040119
PRAI	JP 2003-22354	A	20030130		
OS	MARPAT 141:243966				
GI					



AB The derivs. are of I type compds. (X = phenylethynyl, naphthylethynyl, anthrylethynyl, quinolylethynyl, quinoxalylethynyl, ethynyl, alkylethynyl, propargyl ether group; A = aromatic group; m = 1-4). Thus, an example of the I type compds. is 1,3-bis(3-hydroxy-4-aminophenoxy)-5-phenylethynylbenzene which can be prepared by a 4-steps synthesis.

IC ICM C07C217-90

CC 35-2 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 45

ST bisaminophenol phenylethynylbenzene condensation polymer monomer manuf

IT Amines, preparation

RL: IMF (Industrial manufacture); PREP (Preparation)
(diamines, monomers; manufacture of bis(aminophenol) derivs.
useful for heat-resistant condensation polymers)

IT Monomers

RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(manufacture of bis(aminophenol) derivs. useful for heat-resistant condensation polymers)

IT 753028-50-1P 753028-51-2P 753028-52-3P 753028-54-5P
753028-55-6P 753028-56-7P 753028-58-9P 753028-59-0P 753028-60-3P
753028-62-5P 753028-63-6P 753028-65-8P 753028-66-9P
753028-67-0P

RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(manufacture of bis(aminophenol) derivs. useful for heat-resistant condensation polymers)

IT 84-59-3, 2,6-Dibromo-1,5-dihydroxynaphthalene 115-19-5,
2-Methyl-3-butyn-2-ol 536-74-3, Ethynylbenzene 13185-00-7,
6,6'-Dibromo-1,1'-bi-2-naphthol 106120-04-1, 5-Bromoresorcinol
129464-01-3, 2-Benzylxyloxy-4-fluoronitrobenzene 169169-89-5,
9,9-Bis(4-hydroxyphenyl)-2,7-dibromofluorene
RL: RCT (Reactant); RACT (Reactant or reagent)
(manufacture of bis(aminophenol) derivs. useful for heat-resistant condensation polymers)

IT 753028-53-4P 753028-57-8P 753028-61-4P 753028-64-7P 753028-68-1P

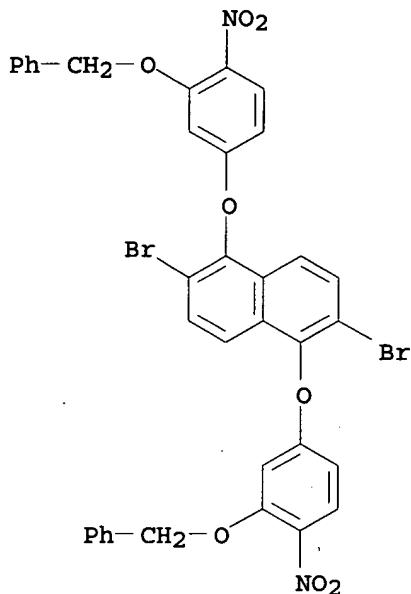
RL: IMF (Industrial manufacture); PREP (Preparation)
(monomers; manufacture of bis(aminophenol) derivs. useful for heat-resistant condensation polymers)

IT 753028-54-5P 753028-65-8P

RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(manufacture of bis(aminophenol) derivs. useful for heat-resistant condensation polymers)

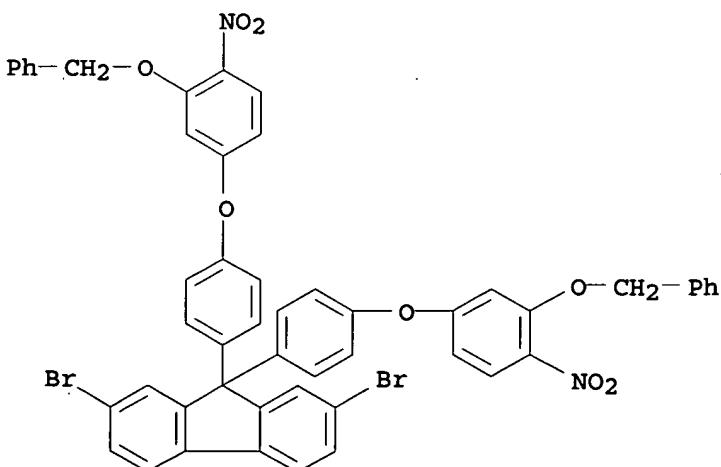
RN 753028-54-5 HCPLUS

CN Naphthalene, 2,6-dibromo-1,5-bis[4-nitro-3-(phenylmethoxy)phenoxy] - (9CI)
(CA INDEX NAME)



RN 753028-65-8 HCPLUS

CN 9H-Fluorene, 2,7-dibromo-9,9-bis[4-[4-nitro-3-(phenylmethoxy)phenoxy]phenyl] - (9CI) (CA INDEX NAME)



DN 140:407263

TI Crosslinkable group-containing aromatic aminophenols and their manufacture
 IN Izumi, Atsushi; Matsutani, Mihoko; Yoshihashi, Ayako; Murayama, Kazumoto
 PA Sumitomo Bakelite Co., Ltd., Japan
 SO Jpn. Kokai Tokkyo Koho, 29 pp.
 CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2004143143	A2	20040520	JP 2003-199837	20030722
PRAI	JP 2002-214470	A	20020723		
	JP 2002-220847	A	20020730		
	JP 2002-252108	A	20020829		

OS MARPAT 140:407263

AB Title compds. $(A_1)nC_6H_5-nCONHX(OH)2NHCOC_6H_5-n(A_2)n$ [I; A_1, A_2 = acetylene bond-containing organic group; $n = 1-5$; X = tetravalent aromatic group (structures

given)] are manufactured by amidation of $H_2NX(OH)2NH_2$ (X = same as above) with $(A)nC_6H_5-nCOCl$ (A = same as A_1 or A_2 in I; $n = 1-5$). I are useful as monomers for polymers showing high heat resistance and elastic modulus (no data). Thus, bis(3-amino-4-hydroxyphenyl) ether was amidated by 4-ethynylbenzoyl chloride in N-methylpyrrolidone at 0-5° for 2 h to give 88.9% bis[3-(4-ethynyl)benzoylamino-4-hydroxyphenyl] ether.

IC ICM C07C233-75

ICS C07C231-02; C07C317-40; C07B061-00

CC 35-2 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 25

ST crosslinkable acetylenic arom aminophenol manuf monomer

IT 688737-04-4P 688737-05-5P 688737-06-6P 688737-07-7P
 688737-08-8P 688737-09-9P 688737-10-2P 688737-11-3P
 688737-12-4P 688737-13-5P 688737-14-6P 688737-15-7P
 688737-16-8P 688737-17-9P 688737-18-0P

RL: IMF (Industrial manufacture); PREP (Preparation)

(manufacture of crosslinkable group-containing aromatic aminophenols)

IT 2373-98-0 4194-40-5, 3,3'-Diamino-4,4'-dihydroxybiphenyl 6423-17-2
 20638-07-7, 9,9-Bis(3-amino-4-hydroxyphenyl)fluorene 25851-08-5,
 4-Phenylethynylbenzoyl chloride 62480-31-3, 4-Ethynylbenzoyl chloride
 182047-76-3 359642-31-2

RL: RCT (Reactant); RACT (Reactant or reagent)

(manufacture of crosslinkable group-containing aromatic aminophenols)

IT 688737-07-7P 688737-12-4P 688737-17-9P

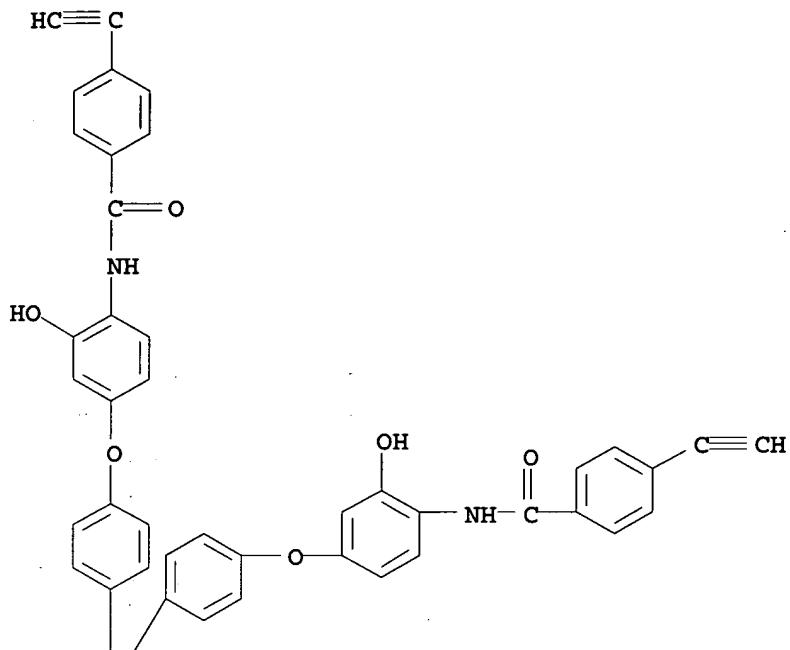
RL: IMF (Industrial manufacture); PREP (Preparation)

(manufacture of crosslinkable group-containing aromatic aminophenols)

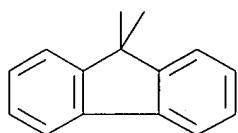
RN 688737-07-7 HCAPLUS

CN Benzamide, N,N'-[9H-fluoren-9-ylidenebis[4,1-phenyleneoxy(2-hydroxy-4,1-phenylene)]bis[4-ethynyl- (9CI) (CA INDEX NAME)

PAGE 1-A



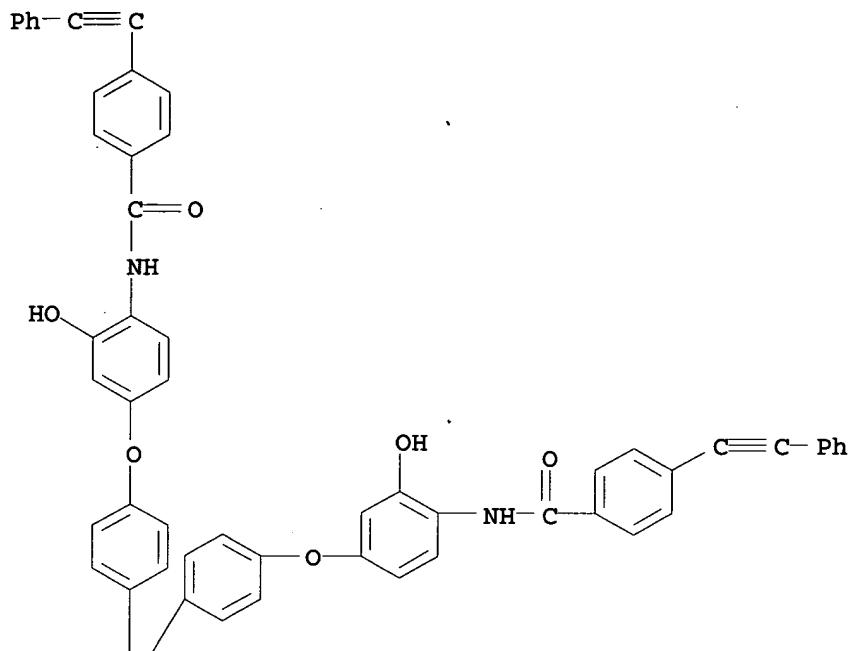
PAGE 2-A



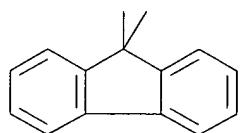
RN 688737-12-4 HCPLUS

CN Benzamide, N,N'-[9H-fluoren-9-ylidenebis[4,1-phenyleneoxy(2-hydroxy-4,1-phenylene)]]bis[4-(phenylethynyl)- (9CI) (CA INDEX NAME)

PAGE 1-A



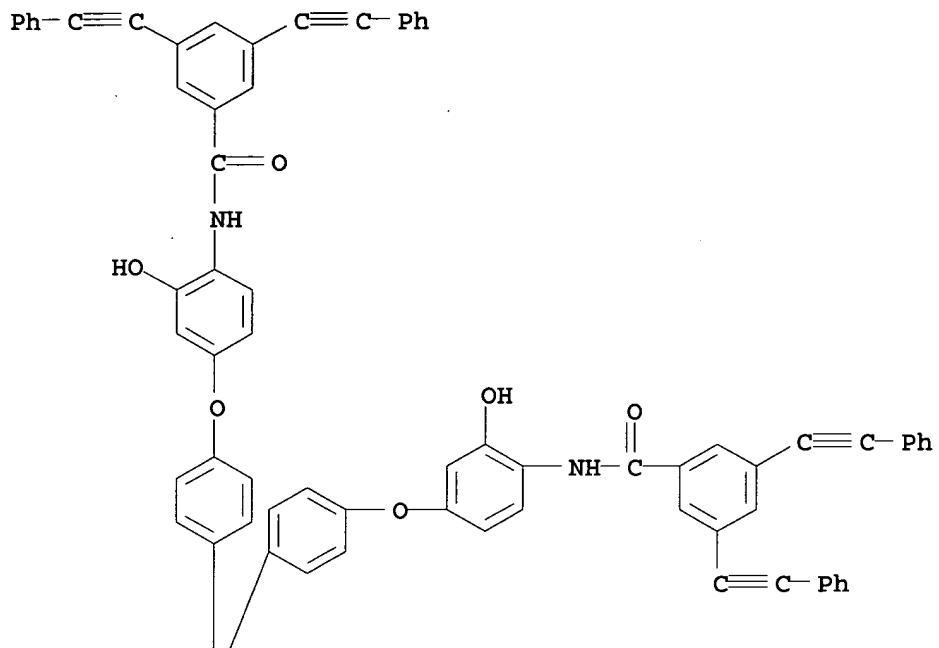
PAGE 2-A



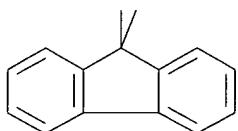
RN 688737-17-9 HCAPLUS

CN Benzamide, N,N'-[9H-fluoren-9-ylidenebis[4,1-phenyleneoxy(2-hydroxy-4,1-phenylene)]]bis[3,5-bis(phenylethynyl)- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



L21 ANSWER 4 OF 41 HCAPLUS COPYRIGHT 2005 ACS on STN
 AN 2004:234595 HCAPLUS
 DN 141:24338
 TI Diels-Alder trapping of photochemically generated dienes with acrylic esters: a novel approach to photocured polymer film development
 AU Ilhan, Faysal; Tyson, Daniel S.; Smith, Deedee; Meador, Mary Ann B.; Meador, Michael A.
 CS Ohio Aerospace Institute, Cleveland, OH, 44142, USA
 SO Polymer Preprints (American Chemical Society, Division of Polymer Chemistry) (2004), 45(1), 883-884
 CODEN: ACPPAY; ISSN: 0032-3934
 PB American Chemical Society, Division of Polymer Chemistry
 DT Journal; (computer optical disk)
 LA English
 AB A novel photocuring process for development of polymer films was approached. A series of mols. with multi o-methylphenyl ketone functionalities was prepared. These mols. as photoreactive monomers were investigated to obtain polyester films through Diels-Alder cycloaddns.
 CC 37-3 (Plastics Manufacture and Processing)

Section cross-reference(s): 35

ST methylphenyl ketone **monomer** polyester Diels Alder cycloaddn photocuring film

IT Polymerization (cyclopolymer.; development of photocured polymer films by Diels-Alder cycloaddn. of methylphenyl ketones with acrylic esters)

IT Glass transition temperature (development of photocured polymer films by Diels-Alder cycloaddn. of methylphenyl ketones with acrylic esters)

IT Crosslinking (photochem.; development of photocured polymer films by Diels-Alder cycloaddn. of methylphenyl ketones with acrylic esters)

IT Polyethers, preparation
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (polyester-, fluorine-containing, polyoxyalkylene-; development of photocured polymer films by Diels-Alder cycloaddn. of methylphenyl ketones with acrylic esters)

IT Fluoropolymers, preparation
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (polyester-polyether-, polyoxyalkylene-; development of photocured polymer films by Diels-Alder cycloaddn. of methylphenyl ketones with acrylic esters)

IT Polyoxyalkylenes, preparation
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (polyester-polyether-; development of photocured polymer films by Diels-Alder cycloaddn. of methylphenyl ketones with acrylic esters)

IT Polyethers, preparation
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (polyester-polyoxyalkylene-; development of photocured polymer films by Diels-Alder cycloaddn. of methylphenyl ketones with acrylic esters)

IT Polyesters, preparation
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (polyether-, fluorine-containing, polyoxyalkylene-; development of photocured polymer films by Diels-Alder cycloaddn. of methylphenyl ketones with acrylic esters)

IT Polyesters, preparation
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (polyether-polyoxyalkylene-; development of photocured polymer films by Diels-Alder cycloaddn. of methylphenyl ketones with acrylic esters)

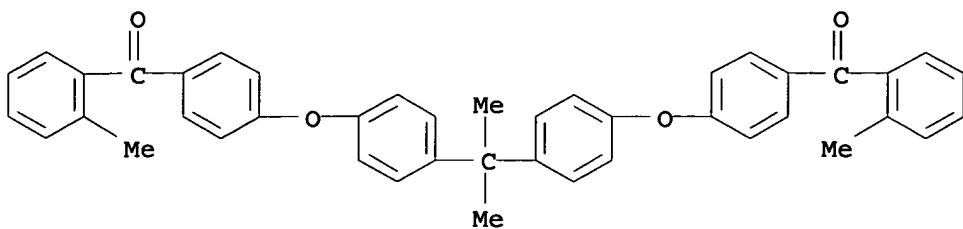
IT 698391-92-3P 698391-93-4P 698391-94-5P 698391-95-6P 698391-96-7P
698391-97-8P 698391-98-9P 698391-99-0P 698392-01-7P 698392-02-8P
698392-03-9P 698392-04-0P
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (development of photocured polymer films by Diels-Alder cycloaddn. of methylphenyl ketones with acrylic esters)

IT 31968-85-1P 698391-87-6P 698391-88-7P 698391-89-8P
698391-90-1P 698391-91-2P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent) (monomer; development of photocured polymer films by Diels-Alder cycloaddn. of methylphenyl ketone with acrylic esters)

IT **698391-90-1P 698391-91-2P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent) (monomer; development of photocured polymer films by Diels-Alder cycloaddn. of methylphenyl ketone with acrylic esters)

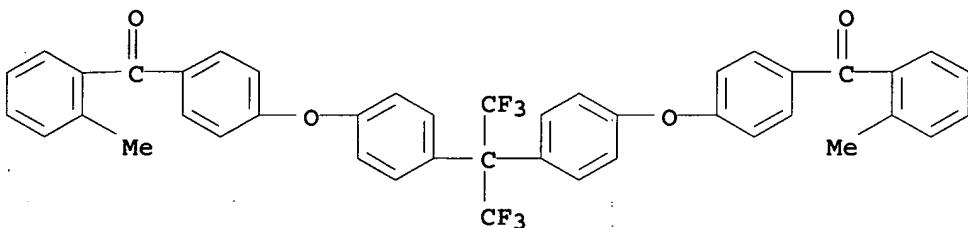
RN 698391-90-1 HCAPLUS

CN Methanone, [(1-methylethylidene)bis(4,1-phenyleneoxy-4,1-phenylene)]bis[(2-methylphenyl)- (9CI) (CA INDEX NAME)]



RN 698391-91-2 HCPLUS

CN Methanone, [[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis(4,1-phenyleneoxy-4,1-phenylene)]bis[(2-methylphenyl)- (9CI) (CA INDEX NAME)



RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L21 ANSWER 5 OF 41 HCPLUS COPYRIGHT 2005 ACS on STN

AN 2003:936034 HCPLUS

DN 140:128763

TI Synthesis and Characterization of Phthalazinone Containing Poly(arylene ether)s, Poly(arylene thioether)s, and Poly(arylene sulfone)s via a Novel N-C Coupling Reaction

AU Wang, S. J.; Meng, Y. Z.; Hlil, A. R.; Hay, A. S.

CS School of Physics Engineering, Sun Yat-Sen University, Guangzhou, 510275, Peop. Rep. China

SO Macromolecules (2004), 37(1), 60-65

CODEN: MAMOBX; ISSN: 0024-9297

PB American Chemical Society

DT Journal

LA English

AB High mol. weight phthalazinone containing poly(arylene ether)s, poly(arylene thioether)s, and poly(arylene sulfone)s with very high glass transition temps. were synthesized from a series of new bisphthalazinone monomers. Bisphthalazinone monomers were synthesized from 2-(4-chlorobenzoyl)benzoic acid in high yields. Poly(arylene ether)s and poly(arylene thioether)s were synthesized in N,N'-dimethylacetamide (DMAc) in the presence of anhydrous K₂CO₃ by a nucleophilic substitution reaction between these bisphthalazinone monomers and activated difluoro compds. The poly(arylene thioether)s were further oxidized to form poly(arylene sulfone)s, which would be very difficult, if not impossible, to synthesize by other method. All synthesized polymers have extremely high T_{gs} and thermal stability as determined from DSC and TGA anal. Poly(arylene sulfone)s have the highest T_{gs} ranging from 288 to 333 °C. The poly(arylene ether)s and poly(arylene thioether)s described, having inherent viscosities in the range of 0.37-1.01 dL/g, are soluble in chlorinated solvents such as chloroform and could be cast into flexible films from solution. In contrast to their precursors, the

poly(arylene sulfone)s described are not soluble in chloroform but are soluble in dipolar aprotic solvents such as DMAc.

CC 35-5 (Chemistry of Synthetic High Polymers)

ST phthalazinone contg polyether polythioether polysulfone prepn

IT Polyketones

Polysulfones, preparation

RL: SPN (Synthetic preparation); PREP (Preparation)
(polyether-, fluorine-containing; preparation and characterization of phthalazinone containing poly(arylene ether), poly(arylene thioether), and poly(arylene sulfone) via N-C coupling reaction)

IT Polyketones

Polysulfones, preparation

RL: SPN (Synthetic preparation); PREP (Preparation)
(polyether-; preparation and characterization of phthalazinone containing poly(arylene ether), poly(arylene thioether), and poly(arylene sulfone) via N-C coupling reaction)

IT Fluoropolymers, preparation

Polythioethers

RL: SPN (Synthetic preparation); PREP (Preparation)
(polyether-polyketone-; preparation and characterization of phthalazinone containing poly(arylene ether), poly(arylene thioether), and poly(arylene sulfone) via N-C coupling reaction)

IT Fluoropolymers, preparation

Polythioethers

RL: SPN (Synthetic preparation); PREP (Preparation)
(polyether-polysulfone-; preparation and characterization of phthalazinone containing poly(arylene ether), poly(arylene thioether), and poly(arylene sulfone) via N-C coupling reaction)

IT Polyketones

Polysulfones, preparation

RL: SPN (Synthetic preparation); PREP (Preparation)
(polyether-polythioether-; preparation and characterization of phthalazinone containing poly(arylene ether), poly(arylene thioether), and poly(arylene sulfone) via N-C coupling reaction)

IT Polyethers, preparation

Polythioethers

RL: SPN (Synthetic preparation); PREP (Preparation)
(polyketone-, fluorine-containing; preparation and characterization of phthalazinone containing poly(arylene ether), poly(arylene thioether), and poly(arylene sulfone) via N-C coupling reaction)

IT Polyethers, preparation

Polythioethers

RL: SPN (Synthetic preparation); PREP (Preparation)
(polyketone-; preparation and characterization of phthalazinone containing poly(arylene ether), poly(arylene thioether), and poly(arylene sulfone) via N-C coupling reaction)

IT Fluoropolymers, preparation

Polyethers, preparation

RL: SPN (Synthetic preparation); PREP (Preparation)
(polyketone-polythioether-; preparation and characterization of phthalazinone containing poly(arylene ether), poly(arylene thioether), and poly(arylene sulfone) via N-C coupling reaction)

IT Polyethers, preparation

Polythioethers

RL: SPN (Synthetic preparation); PREP (Preparation)
(polysulfone-, fluorine-containing; preparation and characterization of phthalazinone containing poly(arylene ether), poly(arylene thioether), and poly(arylene sulfone) via N-C coupling reaction)

IT Polyethers, preparation

Polythioethers

RL: SPN (Synthetic preparation); PREP (Preparation)
(polysulfone-; preparation and characterization of phthalazinone containing poly(arylene ether), poly(arylene thioether), and poly(arylene sulfone) via N-C coupling reaction)

IT Fluoropolymers, preparation
Polyethers, preparation
RL: SPN (Synthetic preparation); PREP (Preparation)
(polysulfone-polythioether-; preparation and characterization of phthalazinone containing poly(arylene ether), poly(arylene thioether), and poly(arylene sulfone) via N-C coupling reaction)

IT Polyketones
Polysulfones, preparation
RL: SPN (Synthetic preparation); PREP (Preparation)
(polythioether-, fluorine-containing; preparation and characterization of phthalazinone containing poly(arylene ether), poly(arylene thioether), and poly(arylene sulfone) via N-C coupling reaction)

IT Polyketones
Polysulfones, preparation
RL: SPN (Synthetic preparation); PREP (Preparation)
(polythioether-; preparation and characterization of phthalazinone containing poly(arylene ether), poly(arylene thioether), and poly(arylene sulfone) via N-C coupling reaction)

IT Glass transition temperature
Polymerization
(preparation and characterization of phthalazinone containing poly(arylene ether), poly(arylene thioether), and poly(arylene sulfone) via N-C coupling reaction)

IT 80-05-7, Bisphenol A, reactions 85-56-3, 2-(4-Chlorobenzoyl)benzoic acid 1478-61-1, 4,4'-(Hexafluoroisopropylidene)diphenol 1965-09-9, 4,4'-Dihydroxydiphenyl ether 7803-57-8, Hydrazine monohydrate 17527-79-6, 4,4'-Oxybis(benzenethiol)
RL: RCT (Reactant); RACT (Reactant or reagent)
(in preparation of bisphthalazinone monomers)

IT 599205-78-4P 599205-79-5P 599205-80-8P 599205-83-1P 599205-84-2P
599205-85-3P 599205-88-6P 599205-89-7P 599205-90-0P 599205-93-3P
599205-94-4P 599205-95-5P 599205-98-8P 599205-99-9P 599206-00-5P
599206-03-8P 599206-04-9P 599206-05-0P 649572-64-5P 649572-66-7P
649572-67-8P 649572-68-9P 649572-70-3P 649572-71-4P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation and characterization of)

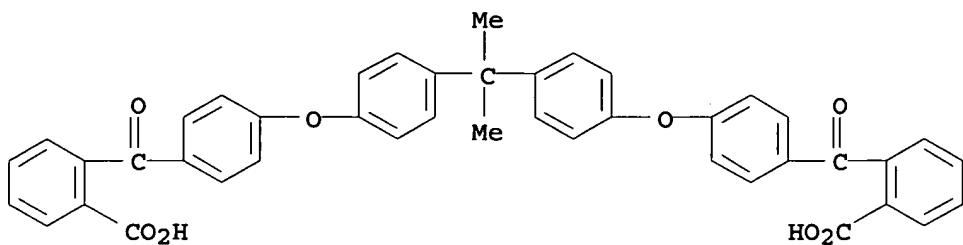
IT 599205-73-9P 599205-74-0P 599205-75-1P 649572-48-5P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and polymerization of)

IT 599205-68-2P 599205-69-3P 599205-70-6P 649572-32-7P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and reaction with hydrazine monohydrate)

IT 599205-68-2P 599205-69-3P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and reaction with hydrazine monohydrate)

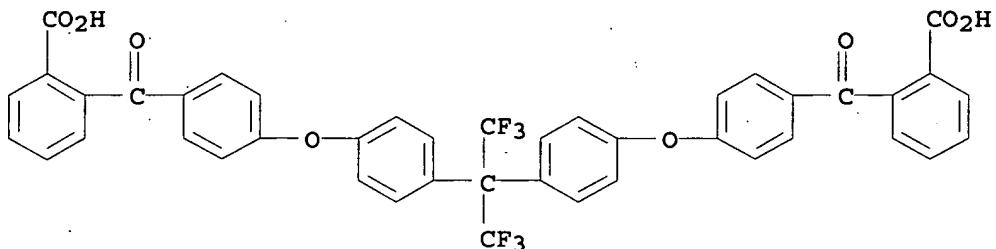
RN 599205-68-2 HCAPLUS

CN Benzoic acid, 2,2'-(1-methylethylidene)bis(4,1-phenyleneoxy-4,1-phenylene carbonyl)bis- (9CI) (CA INDEX NAME)



RN 599205-69-3 HCAPLUS

CN Benzoic acid, 2,2'--[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis(4,1-phenyleneoxy-4,1-phenylene carbonyl)bis- (9CI) (CA INDEX NAME)



RE.CNT 23 THERE ARE 23 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L21 ANSWER 6 OF 41 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2003:620193 HCAPLUS

DN 139:246276

TI Synthesis and characterization of phthalazinone containing poly(arylene ether)s via a novel N-C coupling reaction

AU Wang, S. J.; Meng, Y. Z.; Tjong, S. C.; Hlil, A. R.; Hay, A. S.

CS Guangzhou Institute of Chemistry, Chinese Academy of Sciences, Canton, 510650, Peop. Rep. China

SO Journal of Polymer Science, Part A: Polymer Chemistry (2003), 41(16), 2481-2490

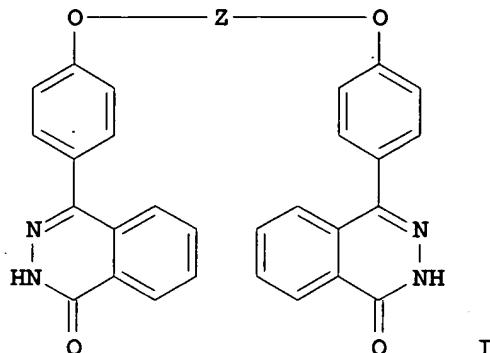
CODEN: JPACEC; ISSN: 0887-624X

PB John Wiley & Sons, Inc.

DT Journal

LA English

GI



AB High-mol.-weight poly(phthalazinone)s with very high glass transition temps. (T_g 's) were synthesized via a novel N-C coupling reaction. Five bisphthalazinone monomers having the structure (I; $Z = p\text{-C}_6\text{H}_4$, $p\text{-C}_6\text{H}_4\text{C}_6\text{H}_4\text{-p}$, $p\text{-C}_6\text{H}_4\text{CMe}_2\text{C}_6\text{H}_4\text{-p}$, $p\text{-C}_6\text{H}_4\text{C}(\text{CF}_3)_2\text{C}_6\text{H}_4\text{-p}$, or $p\text{-C}_6\text{H}_4\text{OC}_6\text{H}_4\text{-p}$) were synthesized from 2-(4-chlorobenzoyl) phthalic acid in two steps.

Poly(phthalazinone)s, having inherent viscosities in the range of 0.34-0.91 dL/g, were prepared by the reaction of the bisphthalazinone monomers with an activated aryl halide in a dipolar aprotic solvent in the presence of potassium carbonate. The poly(phthalazinone)s exhibited T_g 's $>230^\circ$. The polymer synthesized from di-Ph biphenol and bis(4-fluorophenyl) sulfone demonstrated the highest T_g of 297° . Thermal stabilities of the poly(phthalazinone)s were determined by thermogravimetric anal. All the poly(phthalazinone)s showed a similar pattern of decomposition with no weight loss below 450° in N. The temps. of 5% weight loss were observed to be about 500° . The poly(phthalazinone)s containing 4,4'-isopropylidenediphenol and 4,4'-(hexafluoroisopropylidene) diphenol and di-Ph ether linkages were soluble in chlorinated solvents such as chloroform. Other poly(phthalazinone)s were soluble in dipolar aprotic solvents such as N,N'-dimethylacetamide. The soluble poly(phthalazinone)s can be cast as flexible films from solution

CC 35-5 (Chemistry of Synthetic High Polymers)

ST phthalazinone group contg arom polyether; bisphthalazinone polymn. aryl fluoride

IT Polymerization

(of bisphthalazinones with aryl fluorides in synthesis of phthalazinone-containing poly(arylene ether)s)

IT Polyketones

Polysulfones, preparation

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (polyether-, aromatic, phthalazinone group-containing; synthesis and characterization of phthalazinone-containing poly(arylene ether)s via novel N-C coupling reaction)

IT Polyethers, preparation

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (polyketone-, aromatic, phthalazinone group-containing; synthesis and characterization of phthalazinone-containing poly(arylene ether)s via novel N-C coupling reaction)

IT Polyethers, preparation

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (polysulfone-, aromatic, phthalazinone group-containing; synthesis and characterization of phthalazinone-containing poly(arylene ether)s via novel N-C coupling reaction)

IT Glass transition temperature
 Solubility
 Thermal stability
 (synthesis and characterization of phthalazinone-containing poly(arylene ether)s via novel N-C coupling reaction)

IT 85-57-4P, 2-(4-Hydroxybenzoyl) benzoic acid 599205-66-0P 599205-67-1P
 599205-68-2P 599205-69-3P 599205-70-6P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (intermediate; in preparation of bisphthalazinone monomers for synthesis of poly(phthalazinone)s)

IT 599205-71-7P 599205-72-8P 599205-73-9P 599205-74-0P 599205-75-1P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (monomer; for synthesis of phthalazinone-containing poly(arylene ether)s via novel N-C coupling reaction)

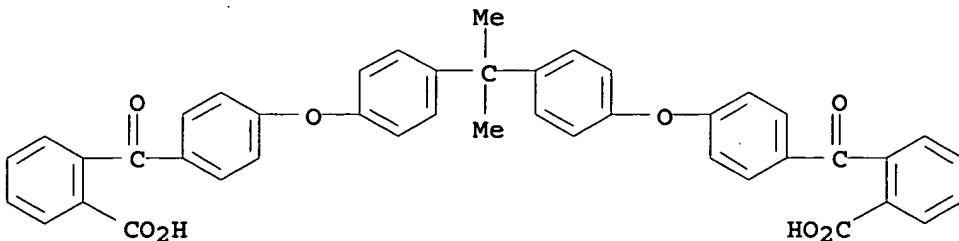
IT 152594-70-2P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (monomer; two-step synthesis of)

IT 80-05-7, Bisphenol A, reactions 85-56-3, 2-(4-Chlorobenzoyl)benzoic acid
 92-88-6, 4,4'-Dihydroxydiphenyl 123-31-9, Hydroquinone, reactions
 302-01-2, Hydrazine, reactions 1478-61-1 1965-09-9,
 4,4'-Dihydroxydiphenyl ether
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reactant; in preparation of bisphthalazinone monomers for synthesis of poly(phthalazinone)s)

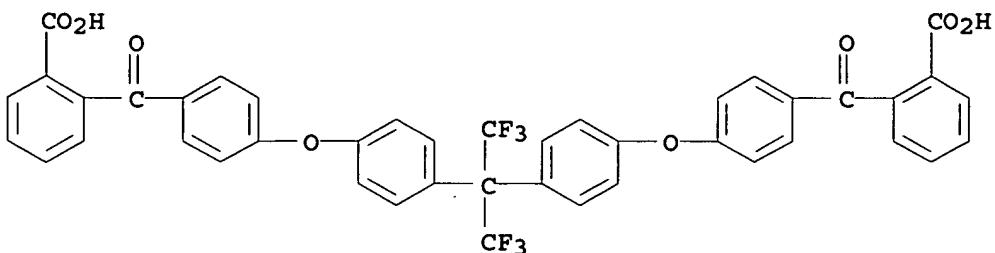
IT 599205-76-2P 599205-77-3P 599205-78-4P 599205-79-5P 599205-80-8P
 599205-81-9P 599205-82-0P 599205-83-1P 599205-84-2P 599205-85-3P
 599205-86-4P 599205-87-5P 599205-88-6P 599205-89-7P 599205-90-0P
 599205-91-1P 599205-92-2P 599205-93-3P 599205-94-4P 599205-95-5P
 599205-96-6P 599205-97-7P 599205-98-8P 599205-99-9P 599206-00-5P
 599206-01-6P 599206-02-7P 599206-03-8P 599206-04-9P 599206-05-0P
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (synthesis and characterization of phthalazinone-containing poly(arylene ether)s via novel N-C coupling reaction)

IT 599205-68-2P 599205-69-3P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (intermediate; in preparation of bisphthalazinone monomers for synthesis of poly(phthalazinone)s)

RN 599205-68-2 HCPLUS
 CN Benzoic acid, 2,2'-(1-methylethylidene)bis(4,1-phenyleneoxy-4,1-phenylene carbonyl)bis- (9CI) (CA INDEX NAME)



RN 599205-69-3 HCPLUS
 CN Benzoic acid, 2,2'-(2,2,2-trifluoro-1-(trifluoromethyl)ethylidene)phenyleneoxy-4,1-phenylene carbonyl)bis- (9CI) (CA INDEX NAME)



RE.CNT 23 THERE ARE 23 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L21 ANSWER 7 OF 41 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2003:568621 HCAPLUS

DN 139:118408

TI Halogenated aromatic compound, (co)polymer thereof, and proton-conductive membrane comprising same

IN Yamakawa, Yoshitaka; Takahashi, Masayuki; Goto, Kohei

PA JSR Corporation, Japan

SO Eur. Pat. Appl., 33 pp.
CODEN: EPXXDW

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1329444	A1	20030723	EP 2003-1191	20030121
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
	JP 2003286339	A2	20031010	JP 2003-9485	20030117
	US 2003173547	A1	20030918	US 2003-347336	20030121
	US 6833426	B2	20041221		

PRAI JP 2002-13450 A 20020122

AB A halogenated aromatic compound, a polyarylene (co)polymer obtained by the polymerization of such a halogenated aromatic compound as a monomer component, and a proton-conductive membrane made of a sulfonation product of such a (co)polymer are disclosed. The halogenated aromatic compound is represented by the following general formula R1X1A(X2BX3A)aX4B(X5B)bZ (A = electron-withdrawing group; B = electron-donating atom or divalent group; X = halogenated phenylene groups; Z = aryl group; a, b = 1-20). Thus, adding 2,5-dichloro-4'-(4-(4-phenoxy)phenoxy)benzoyl]phenoxybenzophenone 12.3, [4,4'-dichlorobenzophenone 2,2-bis(4-hydroxyphenyl)-1,1,1,3,3,3-hexafluoropropane] (Mn 12,200) 6.83, bis(triphenylphosphine)nickel dichloride 0.589, NaI 0.507, triphenylphosphine 2.73 and Zn 4.08 g to a flask, after purging with N₂, combining with 54.6 mL N-methylpyrrolidone and heating with stirring at 80° for 3 h gave a polymer which was precipitated and sulfonated to give a conductive polymer. The polymer was soluble

in N-methylpyrrolidone and THF and insol. in acetone, methanol, and water. A solvent-cast film made from the sulfonated polymer had good strength and resistance to hot water and Fenton's reagent.

IC ICM C07C049-84

ICS C07C317-22; C08G065-40; C08G061-12; C08G075-23; C08J005-22

CC 38-3 (Plastics Fabrication and Uses)

ST halogenated polyphenyl sulfonation proton conductive membrane manuf; chem hot water resistance membrane sulfonated polyphenyl polymer

IT Membranes, nonbiological

(manufacture of halogenated aromatic compds. for polymers useful for proton-conductive membrane production)

IT Polyketones
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polyether-, fluorine-containing; manufacture of halogenated aromatic compds. for polymers useful for proton-conductive membrane production)

IT Fluoropolymers, uses
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polyether-polyketone-; manufacture of halogenated aromatic compds. for polymers useful for proton-conductive membrane production)

IT Polyoxyphenylenes
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polyketone-, fluorinated; manufacture of halogenated aromatic compds. for polymers useful for proton-conductive membrane production)

IT Polyethers, uses
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polyketone-, fluorine-containing; manufacture of halogenated aromatic compds. for polymers useful for proton-conductive membrane production)

IT Polyketones
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polyoxyphenylene-, fluorinated; manufacture of halogenated aromatic compds. for polymers useful for proton-conductive membrane production)

IT 565228-58-2DP, sulfonated products
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(manufacture of halogenated aromatic compds. for polymers useful for proton-conductive membrane production)

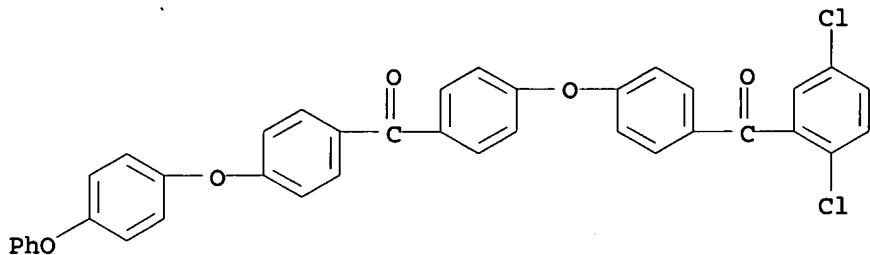
IT 69266-28-0P 122325-09-1P, Bisphenol AF-4,4'-dichlorobenzophenone copolymer 151173-25-0P, 2,5-Dichloro-4'-phenoxybenzophenone 565228-52-6P 565228-55-9P 565228-58-2P
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(manufacture of halogenated aromatic compds. for polymers useful for proton-conductive membrane production)

IT 101-84-8, Diphenyl ether 403-43-0, 4-Fluorobenzoic acid chloride 831-82-3, 4-Phenoxyphenol 2905-61-5, 2,5-Dichlorobenzoyl chloride
RL: RCT (Reactant); RACT (Reactant or reagent)
(manufacture of halogenated aromatic compds. for polymers useful for proton-conductive membrane production)

IT 565228-55-9P
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(manufacture of halogenated aromatic compds. for polymers useful for proton-conductive membrane production)

RN 565228-55-9 HCAPLUS

CN Methanone, [4-[4-(2,5-dichlorobenzoyl)phenoxy]phenyl] [4-(4-phenoxyphenoxy)phenyl]- (9CI) (CA INDEX NAME)



RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L21 ANSWER 8 OF 41 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 2002:858370 HCAPLUS
DN 138:122914
TI Synthesis and properties of soluble aromatic poly(ether benzoxazole)s from 9,9-bis[4-(4-amino-3-hydroxyphenoxy)phenyl]fluorene and aromatic dicarboxylic acid chlorides
AU Imai, Yoshio; Shibasaki, Yuji; Takeuchi, Hisashi; Park, Ki Hong; Kakimoto, Masa-Aki
CS Department of Organic and Polymeric Materials, Tokyo Institute of Technology, Tokyo, 152, Japan
SO High Performance Polymers (2002), 14(3), 253-260
CODEN: HPOEX; ISSN: 0954-0083
PB Sage Publications
DT Journal
LA English
AB An ether-containing bis(o-aminophenol) monomer having a bulky diphenylfluorene unit, 9,9-bis[4-(4-amino-3-hydroxyphenoxy)phenyl]fluorene, was synthesized by the reaction of 9,9-bis(4-hydroxyphenyl)fluorene with 2-benzyloxy-4-fluoronitrobenzene giving a bis-nitrobenzene compound, followed by catalytic reduction. Diphenylfluorene-containing aromatic poly(ether benzoxazole)s (PEBOs) having inherent viscosities of 0.57-0.74 dL g-1 were obtained in two steps by the polycondensation of the bis(o-aminophenol) with various aromatic dicarboxylic acid chlorides giving precursor poly(ether o-hydroxyamide)s, and subsequent thermal cyclodehydration. These aromatic PEBOs were soluble on heating in N-methyl-2-pyrrolidone and m-cresol. The glass transition temps. and 10% weight loss temps. of the PEBOs were in the ranges of 258-294°C and 560-580°C, resp., in nitrogen.
CC 35-5 (Chemistry of Synthetic High Polymers)
ST bisaminophenol deriv dicarboxylic chloride synthesis diphenylfluorene contg polyether polybenzoxazole; sol thermal property polyether polybenzoxazole
IT Glass transition temperature
Solubility
Thermal stability
Viscosity
(of soluble aromatic poly(ether benzoxazole)s from 9,9-bis[4-(4-amino-3-hydroxyphenoxy)phenyl]fluorene and aromatic dicarboxylic acid chlorides)
IT Polyethers, preparation
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(polyamide-, aromatic, fluorene group-containing, cardo; synthesis and properties of soluble aromatic poly(ether benzoxazole)s from 9,9-bis[4-(4-amino-3-hydroxyphenoxy)phenyl]fluorene and aromatic dicarboxylic acid chlorides)
IT Polysulfones, preparation

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (polyamide-polyether-, aromatic, fluorene group-containing, cardo; synthesis and properties of soluble aromatic poly(ether benzoxazole)s from 9,9-bis[4-(4-amino-3-hydroxyphenoxy)phenyl]fluorene and aromatic dicarboxylic acid chlorides)

IT Cardo polymers

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (polyamide-polyether-polysulfones, aromatic, fluorene group-containing; synthesis and properties of soluble aromatic poly(ether benzoxazole)s from 9,9-bis[4-(4-amino-3-hydroxyphenoxy)phenyl]fluorene and aromatic dicarboxylic acid chlorides)

IT Cardo polymers

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (polyamide-polyethers, aromatic, fluorene group-containing; synthesis and properties of soluble aromatic poly(ether benzoxazole)s from 9,9-bis[4-(4-amino-3-hydroxyphenoxy)phenyl]fluorene and aromatic dicarboxylic acid chlorides)

IT Polyethers, preparation

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (polyamide-polysulfone-, aromatic, fluorene group-containing, cardo; synthesis

and properties of soluble aromatic poly(ether benzoxazole)s from 9,9-bis[4-(4-amino-3-hydroxyphenoxy)phenyl]fluorene and aromatic dicarboxylic acid chlorides)

IT Polyethers, preparation

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (polybenzoxazole-, cardo; synthesis and properties of soluble aromatic poly(ether benzoxazole)s from 9,9-bis[4-(4-amino-3-hydroxyphenoxy)phenyl]fluorene and aromatic dicarboxylic acid chlorides)

IT Polysulfones, preparation

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (polybenzoxazole-polyether-, aromatic; synthesis and properties of soluble aromatic poly(ether benzoxazole)s from 9,9-bis[4-(4-amino-3-hydroxyphenoxy)phenyl]fluorene and aromatic dicarboxylic acid chlorides)

IT Cardo polymers

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (polybenzoxazole-polyether-; synthesis and properties of soluble aromatic poly(ether benzoxazole)s from 9,9-bis[4-(4-amino-3-hydroxyphenoxy)phenyl]fluorene and aromatic dicarboxylic acid chlorides)

IT Polyethers, preparation

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (polybenzoxazole-polysulfone-, aromatic; synthesis and properties of soluble aromatic poly(ether benzoxazole)s from 9,9-bis[4-(4-amino-3-hydroxyphenoxy)phenyl]fluorene and aromatic dicarboxylic acid chlorides)

IT Polyamides, preparation

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (polyether-, aromatic, fluorene group-containing, cardo; synthesis and properties of soluble aromatic poly(ether benzoxazole)s from 9,9-bis[4-(4-amino-3-hydroxyphenoxy)phenyl]fluorene and aromatic dicarboxylic acid chlorides)

IT Polybenzoxazoles

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (polyether-, cardo; synthesis and properties of soluble aromatic poly(ether benzoxazole)s from 9,9-bis[4-(4-amino-3-hydroxyphenoxy)phenyl]fluorene and aromatic dicarboxylic acid chlorides)

IT Polyamides, preparation

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (polyether-polysulfone-, aromatic, fluorene group-containing, cardo; synthesis

and properties of soluble aromatic poly(ether benzoxazole)s from

9,9-bis[4-(4-amino-3-hydroxyphenoxy)phenyl]fluorene and aromatic dicarboxylic acid chlorides)

IT Polybenzoxazoles

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (polyether-polysulfone-, aromatic; synthesis and properties of soluble aromatic

poly(ether benzoxazole)s from 9,9-bis[4-(4-amino-3-hydroxyphenoxy)phenyl]fluorene and aromatic dicarboxylic acid chlorides)

IT 3236-71-3, 9,9-Bis(4-hydroxyphenyl)fluorene

RL: RCT (Reactant); RACT (Reactant or reagent) (in reaction with benzylxyfluoronitrobenzene)

IT 129464-01-3P, 2-Benzylxy-4-fluoronitrobenzene

RL: PNU (Preparation, unclassified); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent) (in reaction with bishydroxyphenylfluorene)

IT 359820-18-1P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent) (monomer intermediate; preparation of, and in reduction reaction)

IT 359642-31-2P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent) (monomer; preparation of by reduction reaction, and in polymerization)

IT 359642-35-6P 359642-37-8P 359862-18-3P 479070-81-0P 479070-82-1P

479070-83-2P 488838-66-0P 488838-69-3P 488838-71-7P 488838-72-8P

488838-73-9P 488838-74-0P

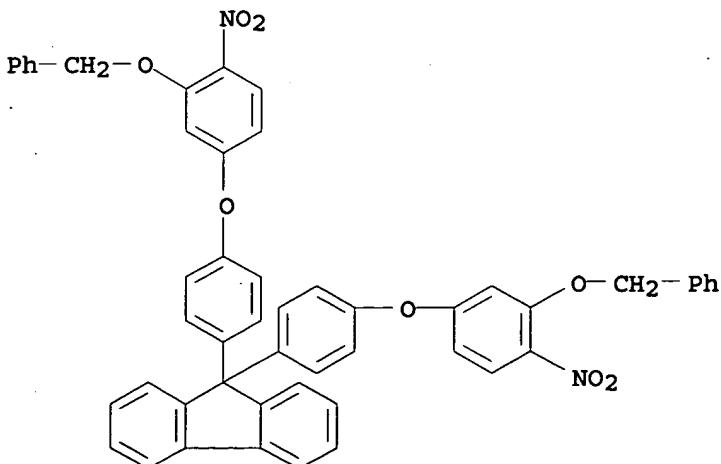
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (synthesis and properties of soluble aromatic poly(ether benzoxazole)s from 9,9-bis[4-(4-amino-3-hydroxyphenoxy)phenyl]fluorene and aromatic dicarboxylic acid chlorides)

IT 359820-18-1P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent) (monomer intermediate; preparation of, and in reduction reaction)

RN 359820-18-1 HCPLUS

CN 9H-Fluorene, 9,9-bis[4-[4-nitro-3-(phenylmethoxy)phenoxy]phenyl]- (9CI) (CA INDEX NAME)



RE.CNT 22 THERE ARE 22 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

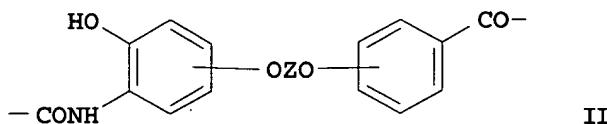
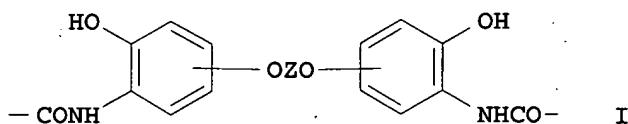
L21 ANSWER 9 OF 41 HCAPLUS COPYRIGHT 2005 ACS on STN
 AN 2001:676835 HCAPLUS
 DN 135:242700
 TI Polybenzoxazole precursors, polybenzoxazoles, and photoresist solutions containing the precursors
 IN Haussmann, Joerg; Maier, Gerhard; Schmid, Guenter; Sezi, Recai
 PA Infineon Technologies A.-G., Germany
 SO PCT Int. Appl., 37 pp.
 CODEN: PIXXD2

DT Patent
 LA German

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2001066619	A1	20010913	WO 2001-DE907	20010309
	W: JP, US				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR				
	DE 10011604	A1	20011004	DE 2000-10011604	20000310
	EP 1189974	A1	20020327	EP 2001-931357	20010309
	EP 1189974	B1	20030521		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	JP 2003525985	T2	20030902	JP 2001-565782	20010309
	US 2002086968	A1	20020704	US 2001-8796	20011113
	US 6824949	B2	20041130		
PRAI	DE 2000-10011604	A	20000310		
	WO 2001-DE907	W	20010309		

GI



AB The invention relates to polybenzoxazole precursors which are provided with one of the partial structures I or II (in which the rings may contain F, Me, CF₃, OMe, or OCF₃ substituents and Z is an aromatic or heterocyclic connecting group). The precursors may be used in conjunction with diazo ketones in photoresist solns. for photoconversion to the cyclized polybenzoxazoles. An example was given for the production of 9,9-bis[4-(4-amino-3-hydroxyphenoxy)phenyl]fluorene-terephthaloyl chloride copolymer and its cyclization in the presence of the diester of bisphenol A with naphthoquinone diazide-5-sulfonic acid to give a high-temperature-stable resist.

IC ICM C08G073-22
 ICS G03F007-038

CC 35-5 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 24, 37, 74

ST polybenzoxazole precursor prodn photoresist

IT Polyamides, preparation
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(cardo; polybenzoxazole precursor production and use for photoresists)

IT Polyamides, preparation
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(fluorine-containing, cardo; polybenzoxazole precursor production and use for photoresists)

for
photoresists)

IT Fluoropolymers, preparation
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polyamide-, cardo; polybenzoxazole precursor production and use for photoresists)

IT Cardo polymers
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polyamides, fluorine-containing; polybenzoxazole precursor production and use for photoresists)

IT Cardo polymers
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polyamides; polybenzoxazole precursor production and use for photoresists)

IT Photoresists
(polybenzoxazole precursor production and use for photoresists)

IT Polybenzoxazoles
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polybenzoxazole precursor production and use for photoresists)

IT 359820-18-1P 359820-19-2P 359820-20-5P
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(monomer intermediate; polybenzoxazole precursor production and use for photoresists)

IT 3236-71-3, 9,9-Bis(4-hydroxyphenyl)fluorene 129464-01-3 359820-21-6
RL: RCT (Reactant); RACT (Reactant or reagent)
(monomer starting material; polybenzoxazole precursor production and use for photoresists)

IT 359642-31-2P 359820-23-8P
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(monomer; polybenzoxazole precursor production and use for photoresists)

IT 38595-90-3
RL: MOA (Modifier or additive use); USES (Uses)
(photoactive agent; polybenzoxazole precursor production and use for photoresists)

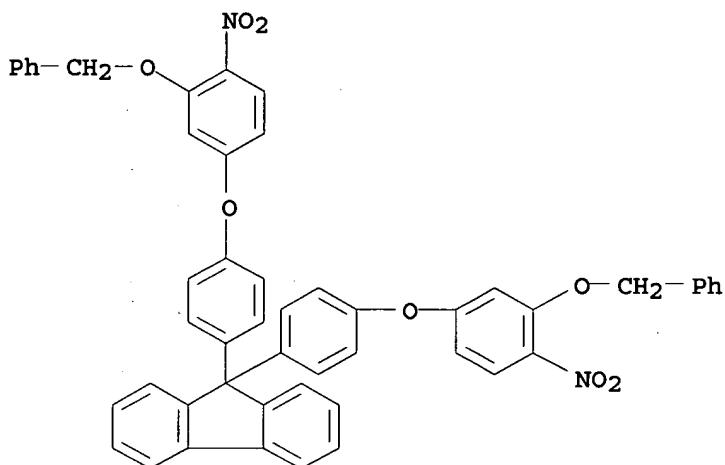
IT 488838-66-0P
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(polybenzoxazole precursor production and use for photoresists)

IT 32109-45-8P, Poly(2,6-benzoxazolediyl) 359862-18-3P 359862-20-7P
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polybenzoxazole precursor production and use for photoresists)

IT 359820-18-1P

RL: IMF (Industrial manufacture); RCT (Reactant); **PREP** (Preparation); RACT (Reactant or reagent)
 (monomer intermediate; polybenzoxazole precursor production and use for photoresists)

RN 359820-18-1 HCPLUS

CN 9H-Fluorene, 9,9-bis[4-[4-nitro-3-(phenylmethoxy)phenoxy]phenyl] - (9CI)
 (CA INDEX NAME)

RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L21 ANSWER 10 OF 41 HCPLUS COPYRIGHT 2005 ACS on STN

AN 2000:292576 HCPLUS

DN 133:238419

TI Synthesis of fluorinated poly(aryl ether)s containing 1,4-naphthalene moieties

AU Mercer, Frank W.; Fone, Matilda M.; McKenzie, Martin T.; Goodwin, Andy A.

CS Corporate Research and Development, Raychem Corporation, Menlo Park, CA, 94025, USA

SO Fluoropolymers (1999), Volume 1, 111-125. Editor(s): Hougham, Gareth.
 Publisher: Kluwer Academic/Plenum Publishers, New York, N. Y.

CODEN: 68WRAL

DT Conference

LA English

AB Six novel fluorinated poly(aryl ether)s containing 1,4-naphthalene moieties were synthesized using 2,2-bis[4-(1-naphthoxy)phenyl]hexafluoropropane (I). Oxidative coupling (homopolymer) of I yielded a polymer with high glass transition temperature, low moisture absorption, and low dielec. constant that could be cast into flexible films. Reaction of I with 4-fluorobenzoyl chloride (Friedel-Crafts acylation) yielded a fluoro-terminated ether-ketone monomer, which was polymerized with 5 different bisphenols to yield poly(ether ketone)s. The following bisphenols were used: 4,4-(hexafluoroisopropylidene)-diphenol, 4,4'-dihydroxybiphenyl, 9,9-bis(4-hydroxyphenyl)fluorene, 4,4'-dihydroxydiphenyl sulfone, and 1,1-bis(4-hydroxyphenyl)-1-phenylethane (bisphenol AP). The poly(ether ketone)s were also cast into flexible, creasable films showing good thermal stability.

CC 35-5 (Chemistry of Synthetic High Polymers)

ST fluorinated arom polyether naphthalene moiety synthesis;

naphthoxyphenylhexafluoropropane monomer synthesis polymn;
polyketone polyether synthesis bisphenol fluorine contg ether ketone
monomer

IT Polyethers, preparation
Polyethers, preparation
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(fluorine-containing; preparation and properties of fluorine-containing
poly(aryl
ether)s containing naphthalene moieties)

IT Polyketones
Polyketones
Polyketones
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(polyether-, fluorine-containing; preparation and properties of
fluorine-containing
poly(aryl ether)s containing naphthalene moieties)

IT Fluoropolymers, preparation
Fluoropolymers, preparation
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(polyether-; preparation and properties of fluorine-containing poly(aryl
ether)s
containing naphthalene moieties)

IT Polysulfones, preparation
Polysulfones, preparation
Polysulfones, preparation
Polysulfones, preparation
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(polyether-polyketone-, fluorine-containing; preparation and properties of
fluorine-containing poly(aryl ether)s containing naphthalene moieties)

IT Fluoropolymers, preparation
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(polyether-polyketone-; preparation and properties of fluorine-containing
poly(aryl ether)s containing naphthalene moieties)

IT Fluoropolymers, preparation
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(polyether-polyketone-polysulfone-; preparation and properties of
fluorine-containing poly(aryl ether)s containing naphthalene moieties)

IT Polyketones
Polyketones
Polyketones
Polyketones
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(polyether-polysulfone-, fluorine-containing; preparation and properties of
fluorine-containing poly(aryl ether)s containing naphthalene moieties)

IT Polyethers, preparation
Polyethers, preparation
Polyethers, preparation
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(polyketone-, fluorine-containing; preparation and properties of
fluorine-containing
poly(aryl ether)s containing naphthalene moieties)

IT Polyethers, preparation
Polyethers, preparation
Polyethers, preparation
Polyethers, preparation
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(polyketone-polysulfone-, fluorine-containing; preparation and properties of
fluorine-containing poly(aryl ether)s containing naphthalene moieties)

IT Dielectric constant
Glass transition temperature

(preparation and properties of fluorine-containing poly(aryl ether)s containing

naphthalene moieties)

IT 136951-69-4P, 2,2-Bis[4-(1-naphthoxy)phenyl]hexafluoropropane
186751-19-9P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP
(Preparation); RACT (Reactant or reagent)

(monomer; preparation and properties of fluorine-containing poly(aryl ether)s containing naphthalene moieties)

IT 136919-56-7P 136951-70-7P 186751-20-2P 186751-21-3P 186751-22-4P
186751-23-5P 186751-24-6P 186751-25-7P 186751-26-8P 186751-27-9P
186751-28-0P 186751-29-1P

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(preparation and properties of fluorine-containing poly(aryl ether)s containing

naphthalene moieties)

IT 90-11-9, 1-Bromonaphthalene 403-43-0, 4-Fluorobenzoyl chloride
1478-61-1

RL: RCT (Reactant); RACT (Reactant or reagent)

(preparation and properties of fluorine-containing poly(aryl ether)s containing

naphthalene moieties)

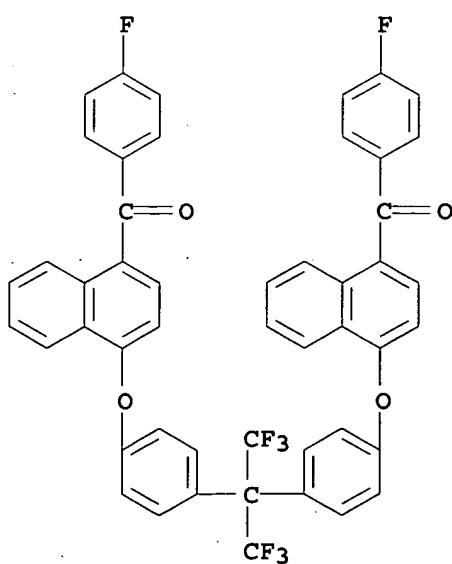
IT 186751-19-9P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP
(Preparation); RACT (Reactant or reagent)

(monomer; preparation and properties of fluorine-containing poly(aryl ether)s containing naphthalene moieties)

RN 186751-19-9 HCPLUS

CN Methanone, [[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis(4,1-phenyleneoxy-4,1-naphthalenediyl)]bis[(4-fluorophenyl)- (9CI) (CA INDEX NAME)]



RE.CNT 24 THERE ARE 24 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L21 ANSWER 11 OF 41 HCPLUS COPYRIGHT 2005 ACS on STN
AN 2000:248747 HCPLUS

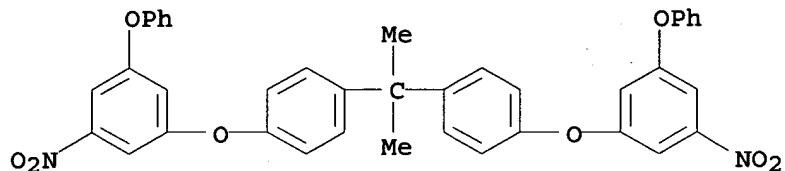
DN 133:17907
TI New condensation aromatic polymers containing phenoxy, thiophenoxy, and phenylsulphone side groups
AU Rusanov, A. L.; Tartakovskiy, V. A.; Shevelev, S. A.; Dutov, M. D.; Vatsadse, I. A.; Serushkina, O. V.; Komarova, L. G.; Prigozhina, M. P.; Bulycheva, E. G.; Elshina, L. B.
CS A.N. Nesmeyanov Institute of Organo-Element Compounds, Russian Academy of Sciences, Moscow, 117813, Russia
SO Polymer (2000), 41(13), 5021-5037
CODEN: POLMAG; ISSN: 0032-3861
PB Elsevier Science Ltd.
DT Journal
LA English
AB New condensation **monomers**-primarily diamines containing phenoxy, thiophenoxy and phenylsulfone substituents were obtained from 2,4,6-trinitrotoluene (TNT). Interaction of some dinitro compds. containing strong electron-withdrawing groups in meta-positions with bis-phenols under conditions of aromatic nucleophilic polynitro substitution reactions led to the formation of aromatic oligoethers. Based on aromatic diamines containing phenoxy and thiophenoxy substituents under conditions of traditional polycondensation and cyclo-condensation reactions, aromatic polyamides and polyimides demonstrating improved processability combined with high thermal stability were obtained.
CC 35-5 (Chemistry of Synthetic High Polymers)
ST phenoxy thiophenoxy phenylsulfone side group polyimide
IT Glass transition temperature
(condensation aromatic polymers containing phenoxy, thiophenoxy, and phenylsulfone side groups)
IT Polyimides, preparation
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(condensation aromatic polymers containing phenoxy, thiophenoxy, and phenylsulfone side groups)
IT Polyimides, preparation
Polyimides, preparation
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(fluorine-containing; condensation aromatic polymers containing phenoxy, thiophenoxy, and phenylsulfone side groups)
IT Polyimides, preparation
Polyimides, preparation
Polyimides, preparation
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(polyether-, fluorine-containing; condensation aromatic polymers containing phenoxy, thiophenoxy, and phenylsulfone side groups)
IT Fluoropolymers, preparation
Polyketones
Polyketones
Polyketones
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(polyether-polyimide-; condensation aromatic polymers containing phenoxy, thiophenoxy, and phenylsulfone side groups)
IT Polyimides, preparation
Polyimides, preparation
Polyimides, preparation
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(polyether-polyketone-; condensation aromatic polymers containing phenoxy, thiophenoxy, and phenylsulfone side groups)
IT Polyethers, preparation
Polyethers, preparation
Polyethers, preparation

Polyketones
 Polyketones
 Polyketones
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (polyimide-, fluorine-containing; condensation aromatic polymers containing
 phenoxy, thiophenoxy, and phenylsulfone side groups)
 IT Fluoropolymers, preparation
 Fluoropolymers, preparation
 Polyketones
 Polyketones
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (polyimide-; condensation aromatic polymers containing phenoxy, thiophenoxy,
 and phenylsulfone side groups)
 IT Fluoropolymers, preparation
 Polyethers, preparation
 Polyethers, preparation
 Polyethers, preparation
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (polyimide-polyketone-; condensation aromatic polymers containing phenoxy,
 thiophenoxy, and phenylsulfone side groups)
 IT Polyimides, preparation
 Polyimides, preparation
 Polyimides, preparation
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (polyketone-, fluorine-containing; condensation aromatic polymers containing
 phenoxy, thiophenoxy, and phenylsulfone side groups)
 IT Polyimides, preparation
 Polyimides, preparation
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (polyketone-; condensation aromatic polymers containing phenoxy,
 thiophenoxy,
 and phenylsulfone side groups)
 IT 179264-08-5P 179264-09-6P 179264-10-9P 179264-11-0P 179264-12-1P
 179264-13-2P 179264-14-3P 179264-15-4P 179264-16-5P 179264-17-6P
 179264-18-7P 179264-19-8P 179264-20-1P 179264-21-2P 179264-28-9P
 179264-29-0P 179264-30-3P 179264-31-4P 179264-32-5P 179264-33-6P
 179264-34-7P 179264-35-8P 179264-36-9P 179264-37-0P 179264-38-1P
 179264-39-2P 179264-40-5P 179264-41-6P 179264-42-7P 179264-43-8P
 197145-80-5P 201048-22-8P 201048-23-9P 201048-24-0P 201048-25-1P
 201048-26-2P 201048-27-3P 201048-30-8P 201048-31-9P 201048-32-0P
 201048-33-1P 201048-34-2P 245652-66-8P 245652-67-9P 245652-68-0P
 245652-69-1P 245652-70-4P 245652-72-6P 245652-73-7P 245652-74-8P
 245652-75-9P 245652-76-0P 272115-78-3P 272115-79-4P 272115-80-7P
 272115-81-8P 272115-82-9P 272115-83-0P 272115-84-1P 272115-85-2P
 272115-86-3P 272115-87-4P 272115-88-5P 272115-89-6P 272115-90-9P
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (condensation aromatic polymers containing phenoxy, thiophenoxy, and
 phenylsulfone side groups)
 IT 86178-27-0P 148749-61-5P 168839-64-3P 168839-65-4P
 175723-08-7P 179264-04-1P 179264-05-2P 179264-07-4P 179264-26-7P
 201048-19-3P 201048-20-6P 214601-69-1P 245652-64-6P
 245652-65-7P
 RL: PRP (Properties); SPN (Synthetic preparation); PREP
 (Preparation)
 (monomer; condensation aromatic polymers containing phenoxy,
 thiophenoxy, and phenylsulfone side groups)
 IT 168839-64-3P 168839-65-4P 201048-19-3P
 201048-20-6P
 RL: PRP (Properties); SPN (Synthetic preparation); PREP
 (Preparation)

(monomer; condensation aromatic polymers containing phenoxy, thiophenoxy, and phenylsulfone side groups)

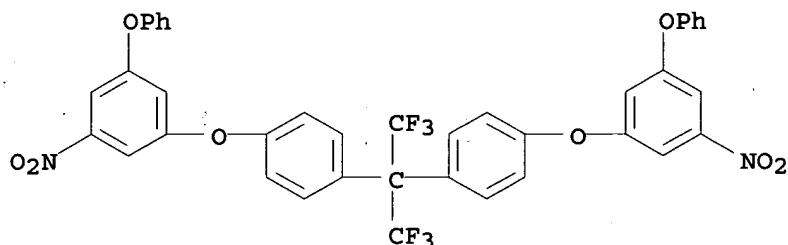
RN 168839-64-3 HCPLUS

CN Benzene, 1,1'-(1-methylethylidene)bis[4-(3-nitro-5-phenoxyphenoxy)- (9CI) (CA INDEX NAME)



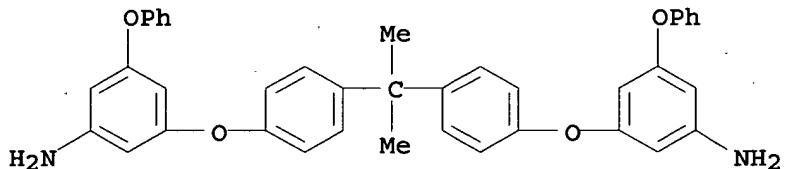
RN 168839-65-4 HCPLUS

CN Benzene, 1,1'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[4-(3-nitro-5-phenoxyphenoxy)- (9CI) (CA INDEX NAME)



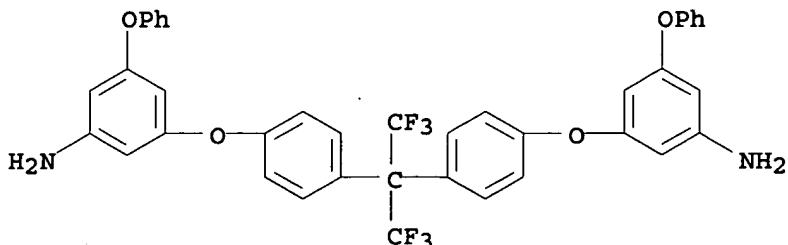
RN 201048-19-3 HCPLUS

CN Benzenamine, 3,3'-(1-methylethylidene)bis(4,1-phenyleneoxy)bis[5-phenoxy- (9CI) (CA INDEX NAME)



RN 201048-20-6 HCPLUS

CN Benzenamine, 3,3'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis(4,1-phenyleneoxy)bis[5-phenoxy- (9CI) (CA INDEX NAME)



RE.CNT 36 THERE ARE 36 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L21 ANSWER 12 OF 41 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1999:363146 HCAPLUS
DN 131:130348
TI Poly-Schiff bases - IV. Synthesis and characterization of poly(etherazomethine)s
AU Banerjee, Susanta; Gutch, Pranav K.; Saxena, Chhaya
CS Defence Research and Development Establishment, Gwalior, 474002, India
SO Designed Monomers and Polymers (1999), 2(2), 135-142
CODEN: DMPOF3; ISSN: 1385-772X
PB VSP BV
DT Journal
LA English
AB Twelve new poly(ether azomethines) with linear structures were prepared by a conventional procedure by reacting six different diamines with two different bisaldehydes containing ether linkages in the backbone. The resulting polymers were confirmed by IR spectra, elemental anal., and viscosity measurements. The thermal stability of the polymers was evaluated by thermogravimetry and isothermal gravimetric analyses. These polymers are reasonably good thermally and thermo-oxidatively stable. A semicryst. behavior was noted for these polymers in X-ray powder diffraction and DSC measurements.
CC 35-5 (Chemistry of Synthetic High Polymers)
ST polyether polyazomethine prep thermal stability
IT Polyethers, preparation
Polyethers, preparation
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(polyazomethine-; preparation and characterization of)
IT Polysulfones, preparation
Polysulfones, preparation
Polysulfones, preparation
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(polyazomethine-polyether-; preparation and characterization of)
IT Polyethers, preparation
Polyethers, preparation
Polyethers, preparation
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(polyazomethine-polysulfone-; preparation and characterization of)
IT Polyazomethines
Polyazomethines
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(polyether-; preparation and characterization of)
IT Polyazomethines
Polyazomethines
Polyazomethines
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(polyether-polysulfone-; preparation and characterization of)
IT Schiff bases
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation as model compds. for polyazomethine-polyethers)
IT Polymer degradation
(thermal; of polyazomethine-polyethers)
IT Polymer degradation
(thermooxidative; of polyazomethine-polyethers)
IT 233766-03-5P 233766-04-6P
RL: SPN (Synthetic preparation); PREP (Preparation)
(model compound; preparation and characterization of polyazomethine-polyethers)

IT 80-05-7, Bisphenol A, reactions 459-57-4, p-Fluorobenzaldehyde
RL: RCT (Reactant); RACT (Reactant or reagent)
(monomer starting material; preparation and characterization of polyazomethine-polyethers)

IT 133387-16-3, 4,4'-Biphenol bis(4-formylphenyl) ether
RL: RCT (Reactant); RACT (Reactant or reagent)
(monomer; preparation and characterization of polyazomethine-polyethers)

IT 108934-23-2P, Bisphenol A bis(4-formylphenyl) ether
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(monomer; preparation and characterization of polyazomethine-polyethers)

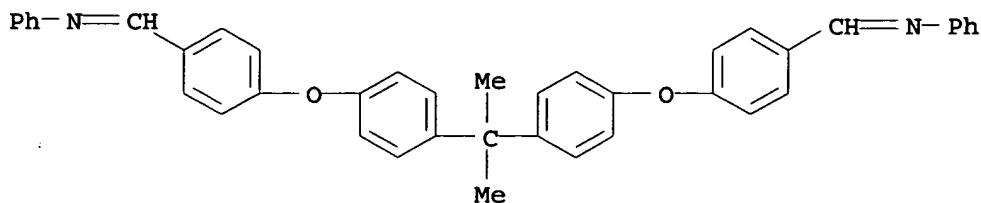
IT 200401-23-6P, Bisphenol A bis(4-formylphenyl) ether-4,4'-oxydianiline copolymer, SRU 233766-05-7P, Bisphenol A bis(4-formylphenyl) ether-4,4'-oxydianiline copolymer 233766-06-8P, Bisphenol A bis(4-formylphenyl) ether-4,4'-diaminobiphenyl copolymer 233766-07-9P, Bisphenol A bis(4-formylphenyl) ether-4,4'-diaminobiphenyl copolymer, SRU 233766-08-0P, Bisphenol A bis(4-formylphenyl) ether-4,4'-sulfonyldianiline copolymer 233766-09-1P, Bisphenol A bis(4-formylphenyl) ether-4,4'-sulfonyldianiline copolymer, SRU 233766-10-4P, Bisphenol A bis(4-formylphenyl) ether-1,3-propanediamine copolymer 233766-11-5P, Bisphenol A bis(4-formylphenyl) ether-1,3-propanediamine copolymer, SRU 233766-12-6P, Bisphenol A bis(4-formylphenyl) ether-1,6-hexanediamine copolymer 233766-13-7P, Bisphenol A bis(4-formylphenyl) ether-1,6-hexanediamine copolymer, SRU 233766-14-8P, Bis(3-aminopropyl)amine-bisphenol A bis(4-formylphenyl) ether copolymer 233766-15-9P, Bis(3-aminopropyl)amine-bisphenol A bis(4-formylphenyl) ether copolymer, SRU 233766-16-0P, 4,4'-Biphenol bis(4-formylphenyl) ether-4,4'-oxydianiline copolymer 233766-17-1P, 4,4'-Biphenol bis(4-formylphenyl) ether-4,4'-oxydianiline copolymer, SRU 233766-18-2P, 4,4'-Biphenol bis(4-formylphenyl) ether-4,4'-diaminobiphenyl copolymer 233766-19-3P, 4,4'-Biphenol bis(4-formylphenyl) ether-4,4'-diaminobiphenyl copolymer, SRU 233766-20-6P, 4,4'-Biphenol bis(4-formylphenyl) ether-4,4'-sulfonyldianiline copolymer 233766-21-7P, 4,4'-Biphenol bis(4-formylphenyl) ether-4,4'-sulfonyldianiline copolymer, SRU 233766-22-8P, 4,4'-Biphenol bis(4-formylphenyl) ether-1,3-propanediamine copolymer 233766-23-9P, 4,4'-Biphenol bis(4-formylphenyl) ether-1,3-propanediamine copolymer, SRU 233766-24-0P, 4,4'-Biphenol bis(4-formylphenyl) ether-1,6-hexanediamine copolymer 233766-25-1P, 4,4'-Biphenol bis(4-formylphenyl) ether-1,6-hexanediamine copolymer, SRU 233766-26-2P, 4,4'-Biphenol bis(4-formylphenyl) ether-bis(3-aminopropyl)amine copolymer 233766-27-3P, 4,4'-Biphenol bis(4-formylphenyl) ether-bis(3-aminopropyl)amine copolymer, SRU
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(preparation and characterization of polyazomethine-polyethers)

IT 62-53-3, Benzenamine, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(starting material in preparation of model compound; preparation and characterization of polyazomethine-polyethers)

IT 233766-03-5P
RL: SPN (Synthetic preparation); PREP (Preparation)
(model compound; preparation and characterization of polyazomethine-polyethers)

RN 233766-03-5 HCPLUS

CN Benzenamine, N,N'-(1-methylethylidene)bis(4,1-phenyleneoxy-4,1-phenylenemethyldyne)]bis- (9CI) (CA INDEX NAME)



RE.CNT 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L21 ANSWER 13 OF 41 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1999:344779 HCAPLUS

DN 131:5685

TI Bis[o-amino(thio)phenols] and their preparation

IN Sezi, Recai; Weber, Andreas; Keitmann, Michael

PA Siemens Aktiengesellschaft, Germany

SO Eur. Pat. Appl., 19 pp.

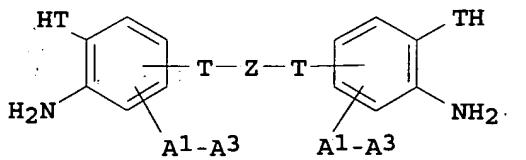
CODEN: EPXXDW

DT Patent

LA German

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 918050	A1	19990526	EP 1998-117331	19980912
	EP 918050	B1	20011212		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	JP 11189573	A2	19990713	JP 1998-270393	19980924
	US 6156902	A	20001205	US 1998-161549	19980924
PRAI	DE 1997-19742196	A	19970924		
OS	MARPAT 131:5685				
GI					

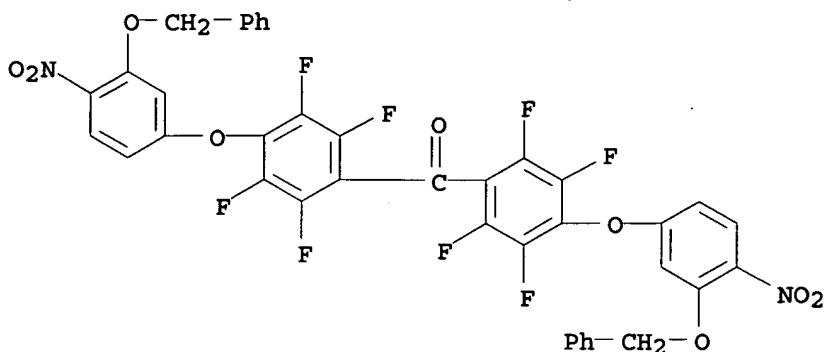


AB Amino bisphenols and bisthiophenols (I; A1-A3 = H, Me, Et, OMe, OEt; T = O, S; Z = aromatic or heterocyclic connecting group) are obtained by condensation of XZX (X = halogen) with a nitrodihydroxybenzene or -dimercaptobenzene in which the OH or SH ortho to the nitro group is protected. After condensation, the protective group is removed and the nitro group is reduced to the amine. I are suitable for use as precursors or monomers for polymers such as polybenzoxazoles. Thus, benzyl 5-hydroxy-2-nitrophenyl ether was condensed (2:1) with decafluorobiphenyl to give 4,4'-bis[3-(benzyloxy)-4-nitrophenoxy]octafluorobiphenyl, which was debenzylated and reduced over Pd/C at 1 bar H pressure to provide 4,4'-bis(4-amino-3-hydroxyphenoxy)octafluorobiphenyl in .apprx.90% overall yield.

IC ICM C07C217-90

ICS C07D213-69

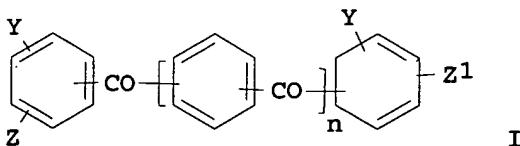
CC 35-2 (Chemistry of Synthetic High Polymers)
ST bisphenol diamino deriv prodn; bisthiophenol diamino deriv prodn; amino deriv bisphenol bisthiophenol prodn; polybenzoxazole monomer prodn
IT Debenzylation
Debenzylation
(catalysts, palladium/carbon; in production of arylenebis(o-aminophenols))
IT Catalysts
Catalysts
(debenzylation, palladium/carbon; in production of arylenebis(o-aminophenols))
IT Hydrogenation catalysts
Hydrogenolysis catalysts
(palladium/carbon; in production of arylenebis(o-aminophenols))
IT Polybenzoxazoles
RL: IMF (Industrial manufacture); PREP (Preparation)
(production of arylenebis(o-aminophenols) as monomers for)
IT Monomers
RL: IMF (Industrial manufacture); PREP (Preparation)
(production of arylenebis(o-aminophenols) for polybenzoxazoles)
IT 222612-30-8P, 4,4'-Bis[3-(benzyloxy)-4-nitrophenoxy]octafluorobiphenyl
225518-45-6P, 4,4'-Bis[3-(benzyloxy)-4-nitrophenoxy]octafluorobenzophenone 225518-46-7P, 2,4-Bis[3-(benzyloxy)-4-nitrophenoxy]-3,5,6-trifluoropyridine 225518-47-8P, 2,4-Bis[3-(benzyloxy)-4-nitrophenoxy]-3,5,6-trifluoro-1-(trifluoromethyl)benzene
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(intermediate; production of arylenebis(o-aminophenols))
IT 222612-29-5P, 4,4'-Bis(4-amino-3-hydroxyphenoxy)octafluorobiphenyl
222612-33-1P, 4,4'-Bis(4-amino-3-hydroxyphenoxy)octafluorobenzophenone
222612-44-4P, 2,4-Bis(4-amino-3-hydroxyphenoxy)-3,5,6-trifluoropyridine
222612-46-6P, 2,4-Bis(4-amino-3-hydroxyphenoxy)-3,5,6-trifluoro-1-(trifluoromethyl)benzene
RL: IMF (Industrial manufacture); PREP (Preparation)
(production of arylenebis(o-aminophenols))
IT 7440-05-3, Palladium, uses
RL: CAT (Catalyst use); USES (Uses)
(reduction and debenzylation catalyst; in production of arylenebis(o-aminophenols))
IT 434-64-0, Octafluorotoluene 434-90-2, Decafluorobiphenyl 700-16-3, Pentafluoropyridine 853-39-4 221615-93-6 221615-94-7, Benzyl 5-hydroxy-2-nitrophenyl ether
RL: RCT (Reactant); RACT (Reactant or reagent)
(starting material; production of arylenebis(o-aminophenols))
IT 7440-44-0, Carbon, uses
RL: CAT (Catalyst use); USES (Uses)
(support for reduction and debenzylation catalyst; in production of arylenebis(o-aminophenols))
IT 225518-45-6P, 4,4'-Bis[3-(benzyloxy)-4-nitrophenoxy]octafluorobenzophenone
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(intermediate; production of arylenebis(o-aminophenols))
RN 225518-45-6 HCPLUS
CN Methanone, bis[2,3,5,6-tetrafluoro-4-[4-nitro-3-(phenylmethoxy)phenoxy]phenyl] - (9CI) (CA INDEX NAME)



RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L21 ANSWER 14 OF 41 HCPLUS COPYRIGHT 2005 ACS on STN
 AN 1998:768066 HCPLUS
 DN 130:81285
 TI Preparation of dihydroxydiaminobenzophenones
 IN Yamashita, Wataru; Yoshimura, Tomomi; Shibuya, Atsushi; Sakata, Yoshihiro; Oikawa, Hideaki; Ota, Masahiro
 PA Mitsui Chemicals Inc., Japan
 SO Jpn. Kokai Tokkyo Koho, 12 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 10316637	A2	19981202	JP 1997-125883	19970515
PRAI JP 1997-125883		19970515		
OS MARPAT 130:81285				
GI				



AB Title compds. I (Y = NH2; Z = OROH; Z1 = OR1OH; n = 0, 1; R, R1 = C6H4, C6H4C6H4, C6H4OC6H4, C6H4COC6H4, etc.), useful as monomers for polyimides, polyamides to give solubility in aqueous alkali solution and photosensitivity (no data), are prepared by condensation of 1 equiv of dinitrobenzophenones I (Y = NO2; Z, Z1 = halo; n = 0, 1) with 2 equiv of HOR2OCH2Ph (R2 = R and/or R1) in the presence of basic compds. in aprotic polar solvents and reduction of diphenylbenzophenones I (Y = NO2; Z = ORCH2Ph; Z1 = OR1CH2Ph). 3,3'-Dinitro-4,4'-dichlorobenzophenone was condensed with hydroquinone monobenzyl ether (preparation given) in DMF in the presence of K2CO3 at 80° for 8 h and reduced with Pd/Al2O3 at 50° to give 68% 3,3'-diamino-4,4'-bis(4-hydroxyphenoxy)benzophenone.
 IC ICM C07C225-22
 ICS B01J023-44; C07C201-12; C07C205-45; C07C221-00; C07C315-04;

C07C317-22; C07C319-20; C07C323-20; C07B061-00

CC 25-16 (Benzene, Its Derivatives, and Condensed Benzenoid Compounds)
Section cross-reference(s): 35ST hydroxydiaminobenzophenone prep monomer polyamide polyimide;
nitrobenzophenone redn; hydroxy benzyl ether condensation
halodinitrobenzophenone

IT Polyamides, preparation

Polyimides, preparation

RL: PNU (Preparation, unclassified); PREP (Preparation)
(monomers for; preparation of dihydroxydiaminobenzophenones by
condensation of hydroxy benzyl ethers with dihalodinitrobenzophenones
and reduction of dinitrobenzophenones)

IT 217443-77-1P 217444-01-4P 217444-10-5P 217444-21-8P

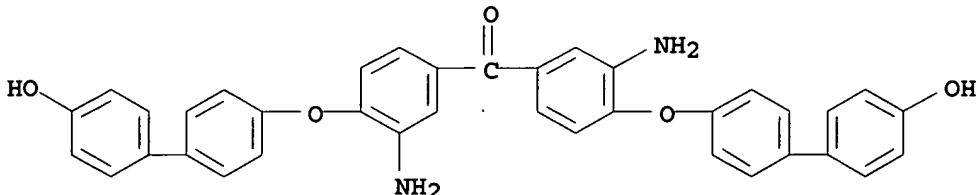
218900-80-2P 218900-81-3P

RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP
(Preparation)(preparation of dihydroxydiaminobenzophenones by condensation of hydroxy
benzyl ethers with dihalodinitrobenzophenones and reduction of
dinitrobenzophenones)IT 80-05-7, reactions 92-88-6, [1,1'-Biphenyl]-4,4'-diol 100-44-7,
reactions 123-31-9, 1,4-Benzenediol, reactions 7498-65-9 141789-20-0
RL: RCT (Reactant); RACT (Reactant or reagent)(preparation of dihydroxydiaminobenzophenones by condensation of hydroxy
benzyl ethers with dihalodinitrobenzophenones and reduction of
dinitrobenzophenones)IT 103-16-2P, Hydroquinone monobenzyl ether 42781-88-4P, Bisphenol A:
monobenzyl ether 52189-87-4P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
(Reactant or reagent)(preparation of dihydroxydiaminobenzophenones by condensation of hydroxy
benzyl ethers with dihalodinitrobenzophenones and reduction of
dinitrobenzophenones)

IT 217444-01-4P 217444-10-5P

RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP
(Preparation)(preparation of dihydroxydiaminobenzophenones by condensation of hydroxy
benzyl ethers with dihalodinitrobenzophenones and reduction of
dinitrobenzophenones)

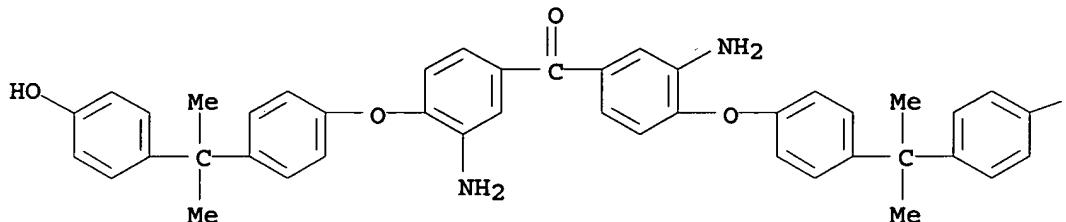
RN 217444-01-4 HCAPLUS

CN Methanone, bis[3-amino-4-[(4'-hydroxy[1,1'-biphenyl]-4-yl)oxy]phenyl]-
(9CI) (CA INDEX NAME)

RN 217444-10-5 HCAPLUS

CN Methanone, bis[3-amino-4-[(4-hydroxyphenyl)-1-methylethyl]phenoxy]phenyl]- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B

—OH

L21 ANSWER 15 OF 41 HCAPLUS COPYRIGHT 2005 ACS on STN
 AN 1998:621253 HCAPLUS
 DN 129:246111
 TI Reduced-temperature curing of acetylenic polymers
 IN Hawthorne, David Geoffrey; Hodgkin, Jonathan Howard
 PA Commonwealth Scientific and Industrial Research Organisation, Australia;
 The Boeing Co.
 SO PCT Int. Appl., 37 pp.
 CODEN: PIXXD2
 DT Patent
 LA English
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9840422	A1	19980917	WO 1998-AU147	19980306
	W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
	AU 9862844	A1	19980929	AU 1998-62844	19980306
	AU 721200	B2	20000629		
	EP 966493	A1	19991229	EP 1998-906747	19980306
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
	JP 2001514684	T2	20010911	JP 1998-538970	19980306
	US 6344523	B1	20020205	US 1999-380505	19991210
PRAI	AU 1997-5493	A	19970307		
	WO 1998-AU147	W	19980306		
OS	MARPAT 129:246111				
AB	The invention provides a method for promoting the curing reactions of an acetylenic oligomer or polymer, characterized in that the oligomer or polymer is cured in the presence of sulfur or an organic sulfur derivative which is capable of lowering the temperature of cure of the oligomer or polymer. The				

invention also provides a process for producing a polyimide oligomer or polymer containing an aliphatic or aromatic disulfide moiety which is covalently

bound to and forms an integral part of the oligomer or polymer and which is capable of lowering the temperature of cure of the oligomer or polymer, characterized in that a suitable amount of a diamino-disulfide or dianhydride-disulfide, or any suitable derivative or precursor thereof, is introduced into the mixture of aromatic diamines, tetracarboxylic dianhydrides, and the phenylethynyl-substituted amine or anhydride normally used for the preparation of the oligoimide.

IC ICM C08F038-00

ICS C08K005-372; C08K005-375; C08K005-40; C08J003-24

CC 37-6 (Plastics Manufacture and Processing)

ST acetylenic polymer curing lower temp; polyimide disulfide group curing lower temp; org sulfur deriv curing acetylenic polymer; sulfur curing catalyst acetylenic polymer

IT Polyimides, preparation

Polyimides, preparation

RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)

(polyether-, acetylene group-containing; reduced-temperature curing of acetylenic

polymers in presence of sulfur or organic sulfur compds.)

IT Polysulfides

Polysulfides

Polysulfides

RL: CAT (Catalyst use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)

(polyether-polyimide-; reduced-temperature curing of acetylenic polymers in presence of sulfur or organic sulfur compds.)

IT Polyimides, preparation

Polyimides, preparation

Polyimides, preparation

RL: CAT (Catalyst use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)

(polyether-polysulfide-; reduced-temperature curing of acetylenic polymers

in

presence of sulfur or organic sulfur compds.)

IT Polyethers, preparation

Polyethers, preparation

RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)

(polyimide-, acetylene group-containing; reduced-temperature curing of acetylenic

polymers in presence of sulfur or organic sulfur compds.)

IT Polyethers, preparation

Polyethers, preparation

Polyethers, preparation

RL: CAT (Catalyst use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)

(polyimide-polysulfide-; reduced-temperature curing of acetylenic polymers

in

presence of sulfur or organic sulfur compds.)

IT Crosslinking catalysts

(reduced-temperature curing of acetylenic polymers in presence of sulfur or organic sulfur compds.)

IT Disulfides

Polysulfides

RL: CAT (Catalyst use); USES (Uses)

(reduced-temperature curing of acetylenic polymers in presence of sulfur or

organic sulfur compds.)

IT 159106-16-8P 213193-19-2P
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(model compound; reduced-temperature curing of acetylenic polymers in presence of sulfur or organic sulfur compds.)

IT 100-00-5, 4-Chloronitrobenzene 16721-80-5, Sodium hydrosulfide
RL: RCT (Reactant); RACT (Reactant or reagent)
(monomer precursor; reduced-temperature curing of acetylenic polymers in presence of sulfur or organic sulfur compds.)

IT 722-27-0P, 4-Aminophenyl disulfide
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(monomer; reduced-temperature curing of acetylenic polymers in presence of sulfur or organic sulfur compds.)

IT 137-26-8, Tetramethylthiuram disulfide 139-66-2, Diphenyl sulfide
150-60-7, Dibenzyl disulfide 882-33-7, Diphenyl disulfide 2757-37-1,
Didodecyl disulfide 7704-34-9, Sulfur, uses
RL: CAT (Catalyst use); USES (Uses)
(reduced-temperature curing of acetylenic polymers in presence of sulfur or organic sulfur compds.)

IT 85-44-9DP, 1,3-Isobenzofurandione, reaction products with sulfide-containing polyimides 213193-20-5DP, reaction products with phthalic anhydride 213193-23-8DP, reaction products with phenylethynylphthalic anhydride 213193-26-1DP, reaction products with phenylethynylphthalic anhydride
RL: CAT (Catalyst use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)
(reduced-temperature curing of acetylenic polymers in presence of sulfur or organic sulfur compds.)

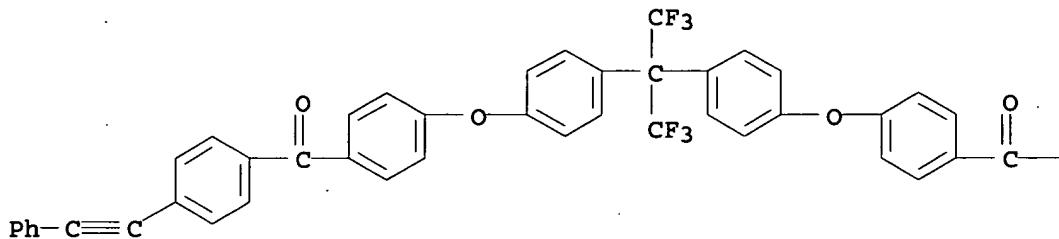
IT 118496-62-1DP, reaction products with phenylethynylphthalic anhydride 119389-05-8DP, 4-Phenylethynylphthalic anhydride, reaction products with polyimides 213193-21-6DP, reaction products with phenylethynylphthalic anhydride 213193-22-7DP, reaction products with phenylethynylphthalic anhydride 213193-24-9DP, reaction products with phenylethynylphthalic anhydride 213193-25-0DP, reaction products with phenylethynylphthalic anhydride 213193-27-2P
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(reduced-temperature curing of acetylenic polymers in presence of sulfur or organic sulfur compds.)

IT 159106-16-8P
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(model compound; reduced-temperature curing of acetylenic polymers in presence of sulfur or organic sulfur compds.)

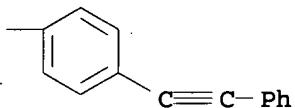
RN 159106-16-8 HCPLUS

CN Methanone, [[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis(4,1-phenyleneoxy-4,1-phenylene)]bis[[4-(phenylethynyl)phenyl]- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L21 ANSWER 16 OF 41 HCPLUS COPYRIGHT 2005 ACS on STN

AN 1998:243779 HCPLUS

DN 128:322029

TI Preparation and properties of processable polyimides having bulky pendent ether groups

AU Tamai, S.; Yamashita, W.; Yamaguchi, A.

CS Omuta Laboratory, Mitsui Toatsu Chemicals, Inc., Omuta, Japan

SO Journal of Polymer Science, Part A: Polymer Chemistry (1998), 36(6), 971-978

CODEN: JPACEC; ISSN: 0887-624X

PB John Wiley & Sons, Inc.

DT Journal

LA English

AB A series of aromatic diamines containing pendent methoxy, phenoxy, and biphenoxy

moieties were synthesized. By the reaction of the diamines with 3,3',4,4'-benzophenonetetracarboxylic dianhydride (BTDA), several kinds of polyimides having bulky pendent ether groups were synthesized. Thermal properties and processability such as melt processability and solubility in organic solvents of the polyimides obtained were investigated by focusing on the chemical structures of their repeating structural units. The thermal stability and melt processability of the polyimides did not strongly depend on the existence of bulky pendent phenoxy and biphenoxy moieties. Their solubility in organic solvents, however, was improved by introducing the bulky pendent ether groups such as methoxy, phenoxy, and biphenoxy moieties into their repeating structural units.

CC 35-5 (Chemistry of Synthetic High Polymers)

ST polyketone polyimide pendent ether group contg

IT Glass transition temperature

Melt viscosity

Solubility

Thermal stability
(of processable polyimides having bulky pendent ether groups)

IT Polyketones
Polyketones
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(polyimide-; preparation and properties of processable polyimides having
bulky pendent ether groups)

IT Polyimides, preparation
Polyimides, preparation
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(polyketone-; preparation and properties of processable polyimides having
bulky pendent ether groups)

IT Polymer chains
(properties and processability of polyimides having bulky pendent ether
groups in relation to)

IT 28827-74-9P, 3,3',4,4'-Benzophenonetetracarboxylic dianhydride-3,3'-
diaminobenzophenone copolymer 51518-44-6P, 3,3',4,4'-
Benzophenonetetracarboxylic dianhydride-3,3'-diaminobenzophenone
copolymer, SRU
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(comparison polymer; properties of processable polyimides having bulky
pendent ether groups in relation to)

IT 100881-20-7P 155085-19-1P, 3,3'-Dinitro-4,4'-diphenoxybenzophenone
206875-38-9P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
(Reactant or reagent)
(intermediate; in preparation of processable polyimides having bulky pendent
ether groups)

IT 71969-51-2P 155085-20-4P, 3,3'-Diamino-4,4'-diphenoxybenzophenone
157632-59-2P, 3,3'-Diamino-4-phenoxybenzophenone 157632-63-8P
157632-66-1P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP
(Preparation); RACT (Reactant or reagent)
(monomer; for preparation of processable polyimides having bulky
pendent ether groups)

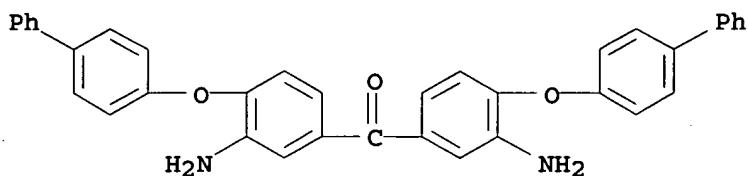
IT 157632-56-9P 157632-58-1P 157632-60-5P 157632-64-9P 157632-67-2P
157632-79-6P 157633-20-0P 206875-39-0P
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(preparation and properties of processable polyimides having bulky pendent
ether groups)

IT 92-69-3, 4-Hydroxybiphenyl 108-95-2, Phenol, reactions 124-41-4,
Sodium methoxide 7498-65-9 37567-44-5
RL: RCT (Reactant); RACT (Reactant or reagent)
(reactant; in preparation of processable polyimides having bulky pendent
ether groups)

IT 157632-63-8P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP
(Preparation); RACT (Reactant or reagent)
(monomer; for preparation of processable polyimides having bulky
pendent ether groups)

RN 157632-63-8 HCPLUS

CN Methanone, bis[3-amino-4-([1,1'-biphenyl]-4-yloxy)phenyl]- (9CI) (CA
INDEX NAME)



RE.CNT 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L21 ANSWER 17 OF 41 HCPLUS COPYRIGHT 2005 ACS on STN
AN 1998:53354 HCPLUS
DN 128:102750
TI Synthesis and properties of a novel thermostable polymer: fluorinated polycarbodiimide
AU Mochizuki, Amane; Sakamoto, Michie; Yoshioka, Masahiro; Hotta, Yuji; Fukuoka, Takahiro; Ueda, Mitsuru
CS Core Technology Center, Nitto Denko Co. Ltd., Osaka, 567, Japan
SO High Performance Polymers (1997), 9(4), 385-395
CODEN: HPPOEX; ISSN: 0954-0083
PB Institute of Physics Publishing
DT Journal
LA English
AB A new fluorinated linear polycarbodiimide (F-PCD) was synthesized by solution polycondensation of a new fluorinated diisocyanate monomer, 4'',4'''-(hexafluoroisopropylidene) bis(4-phenoxyphenyl isocyanate) (HPI) in the presence of 3-methyl-1-phenyl-2-phospholene-1-oxide (PMO). HPI was prepared from 4'',4'''-(hexafluoroisopropylidene)bis(4-phenoxyaniline) (HPA) by three steps. The reaction of HPA with Ph chloroformate gave the corresponding carbamate, which upon reaction with trimethylsilyl chloride (TMS-Cl)-triethylamine (TEA), followed by thermal decomposition, provided HPI. The polymer having a number-average mol. weight up to 8400 was obtained in quant. yield. Thermal properties were investigated and we found that the polymer has a higher glass transition temperature (Tg) up to 230°C, and a lower dielec. constant at 2.98 at 1 MHz than the conventional polycarbodiimides (PCDs). The linear F-PCD was soluble in a wide range of common organic solvents such as toluene and dichloromethane.
CC 37-3 (Plastics Manufacture and Processing)
ST thermostable fluorinated polycarbodiimide prepn property; hexafluoroisopropylidene bisphenoxyphenyl isocyanate prepn polymn
IT Polycarbodiimides
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (-polyether, fluorine-containing; preparation and properties of thermostable)
IT Polyethers, preparation
Polyethers, preparation
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (fluorine-containing, -polycarbodiimides; preparation and properties of thermostable)
IT Dielectric constant
Glass transition temperature
Mechanical loss
(of thermostable fluorinated polycarbodiimides)
IT Fluoropolymers, preparation
Fluoropolymers, preparation
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)

(polyether-, -polycarbodiimides; preparation and properties of thermostable)

IT 69563-88-8, 4'',4''''-(Hexafluoroisopropylidene)bis(4-phenoxyaniline)
RL: RCT (Reactant); RACT (Reactant or reagent)
(in preparation of (hexafluoroisopropylidene) bis(phenoxyphenyl isocyanate) monomer)

IT 201362-80-3P, 4'',4''''-(Hexafluoroisopropylidene)bis[(4-phenoxy-4-phenyl)phenyl carbamate]
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(in preparation of (hexafluoroisopropylidene) bis(phenoxyphenyl isocyanate) monomer)

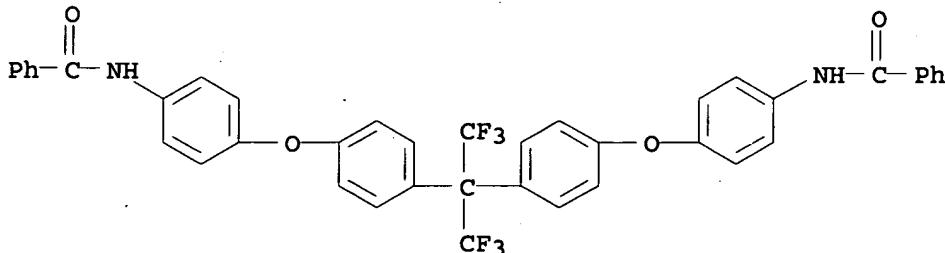
IT 189759-70-4P, 4'',4''''-(Hexafluoroisopropylidene) bis(4-phenoxyphenyl isocyanate)
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and polymerization of)

IT 621-29-4DP, reaction products with fluorinated polycarbodiimide
193750-36-6DP, 4'',4''''-(Hexafluoroisopropylidene) bis(4-phenoxyphenyl isocyanate) homopolymer, reaction products with tolyl isocyanate
193750-36-6P, 4'',4''''-(Hexafluoroisopropylidene) bis(4-phenoxyphenyl isocyanate) homopolymer 195324-61-9DP, 4'',4''''-(Hexafluoroisopropylidene) bis(4-phenoxyphenyl isocyanate) homopolymer, sru, reaction products with tolyl isocyanate 195324-61-9P, 4'',4''''-(Hexafluoroisopropylidene) bis(4-phenoxyphenyl isocyanate) homopolymer, sru
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(preparation and properties of thermostable)

IT 201362-80-3P, 4'',4''''-(Hexafluoroisopropylidene)bis[(4-phenoxy-4-phenyl)phenyl carbamate]
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(in preparation of (hexafluoroisopropylidene) bis(phenoxyphenyl isocyanate) monomer)

RN 201362-80-3 HCPLUS

CN Benzamide, N,N'-[{2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis(4,1-phenyleneoxy-4,1-phenylene)]bis- (9CI) (CA INDEX NAME)



RE.CNT 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L21 ANSWER 18 OF 41 HCPLUS COPYRIGHT 2005 ACS on STN
AN 1998:6753 HCPLUS
DN 128:89167
TI New phenoxy-substituted aromatic diamines and related polyimides
AU Rusanov, A. L.; Komarova, L. G.; Prigozhina, M. P.; Sheveleva, T. S.; Es'kov, A. A.; Shevelev, S. A.; Dutov, M. D.; Vatsadze, I. A.
CS Nesmeyanov Inst. Organoelement Compds., Russ. Acad. Sci., Moscow, 117813, Russia

SO Vysokomolekulyarnye Soedineniya, Seriya A i Seriya B (1997), 39(10),
1701-1705
CODEN: VSSBEE; ISSN: 1023-3091

PB MAIK Nauka

DT Journal

LA Russian

AB New aromatic diamines containing phenoxide substituents - derivs. of 2,4,6-trinitrotoluene - were synthesized. The reaction of these diamines with aromatic tetracarboxylic dianhydrides yielded phenoxy-substituted polyimides. The effect of the structure of the synthesized polymers on their major characteristics was studied. It was found that all polyimides, especially polyimides based on dianhydrides containing "dangling" groups, show large differences between the glass transition and degradation temps., whereas high thermal stability of these polymers remains unchanged. The majority of the obtained polymers are well soluble in organic solvents.

CC 35-5 (Chemistry of Synthetic High Polymers)

ST phenoxy substituted arom diamine monomer prep; polyimide prep
phenoxy substituted arom diamine; thermal degrdn polyimide phenoxy substituted diamine

IT Polyimides, preparation
Polyimides, preparation
Polyimides, preparation
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(polyether-, fluorine-containing; polyimide preparation from phenoxy-substituted aromatic diamines)

IT Polyimides, preparation
Polyimides, preparation
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(polyether-; polyimide preparation from phenoxy-substituted aromatic diamines)

IT Fluoropolymers, preparation
Polyketones
Polyketones
Polyketones
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(polyether-polyimide-; polyimide preparation from phenoxy-substituted aromatic diamines)

IT Polyimides, preparation
Polyimides, preparation
Polyimides, preparation
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(polyether-polyketone-; polyimide preparation from phenoxy-substituted aromatic diamines)

IT Melting point
Viscosity
(polyimide preparation from phenoxy-substituted aromatic diamines)

IT Polyethers, preparation
Polyethers, preparation
Polyethers, preparation
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(polyimide-, fluorine-containing; polyimide preparation from phenoxy-substituted aromatic diamines)

IT Polyethers, preparation
Polyethers, preparation
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)

(polyimide-; polyimide preparation from phenoxy-substituted aromatic diamines)

IT Polyethers, preparation
 Polyethers, preparation
 Polyethers, preparation
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (polyimide-polyketone-; polyimide preparation from phenoxy-substituted aromatic diamines)

IT Polymer degradation
 (thermal; polyimide preparation from phenoxy-substituted aromatic diamines)

IT 179264-07-4P 201048-19-3P 201048-20-6P
 RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation);
 PREP (Preparation); RACT (Reactant or reagent)
 (monomer; phenoxy-substituted aromatic diamines and related polyimides)

IT 179264-33-6P
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (phenoxy-substituted aromatic diamines and related polyimides)

IT 179264-32-5P 179264-34-7P 179264-35-8P 179264-36-9P 179264-37-0P
 179264-38-1P 179264-39-2P 179264-40-5P 179264-41-6P 179264-42-7P
 179264-43-8P 201048-22-8P 201048-23-9P 201048-24-0P 201048-25-1P
 201048-26-2P 201048-27-3P 201048-29-5P 201048-30-8P 201048-31-9P
 201048-32-0P 201048-33-1P 201048-34-2P
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (polyimide preparation from phenoxy-substituted aromatic diamines)

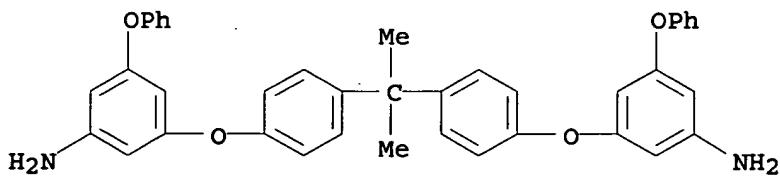
IT 168839-63-2P 168839-64-3P 168839-65-4P
 RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation);
 PREP (Preparation); RACT (Reactant or reagent)
 (reactant in monomer preparation; phenoxy-substituted aromatic diamines and related polyimides)

IT 80-05-7, reactions 123-31-9, Hydroquinone, reactions 1478-61-1,
 Bisphenol AF 148749-61-5
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reactant in monomer preparation; phenoxy-substituted aromatic diamines and related polyimides)

IT 201048-19-3P 201048-20-6P
 RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation);
 PREP (Preparation); RACT (Reactant or reagent)
 (monomer; phenoxy-substituted aromatic diamines and related polyimides)

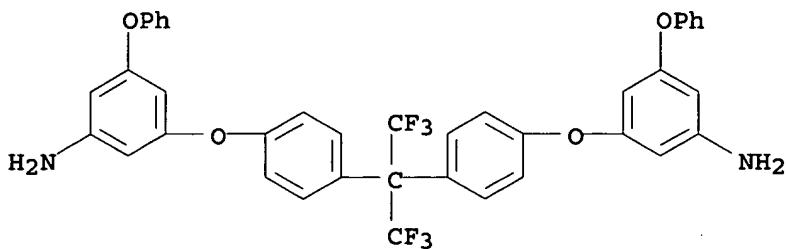
RN 201048-19-3 HCPLUS

CN Benzenamine, 3,3'-[(1-methylethylidene)bis(4,1-phenyleneoxy)]bis[5-phenoxy- (9CI) (CA INDEX NAME)



RN 201048-20-6 HCPLUS

CN Benzenamine, 3,3'-[[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis(4,1-phenyleneoxy)]bis[5-phenoxy- (9CI) (CA INDEX NAME)

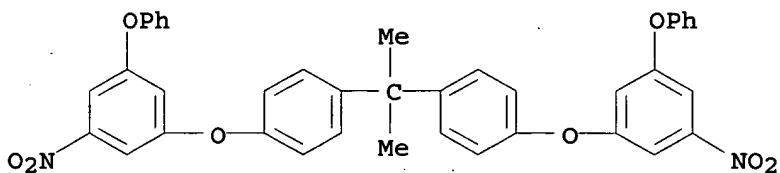


IT 168839-64-3P 168839-65-4P

RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation);
PREP (Preparation); RACT (Reactant or reagent)
 (reactant in monomer preparation; phenoxy-substituted aromatic diamines and related polyimides)

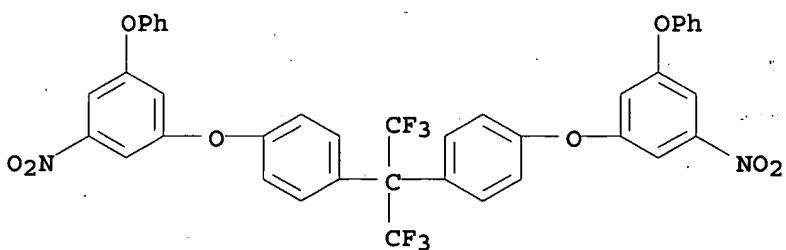
RN 168839-64-3 HCPLUS

CN Benzene, 1,1'-(1-methylethylidene)bis[4-(3-nitro-5-phenoxyphenoxy)- (9CI)
 (CA INDEX NAME)



RN 168839-65-4 HCPLUS

CN Benzene, 1,1'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[4-(3-nitro-5-phenoxyphenoxy)- (9CI) (CA INDEX NAME)



L21 ANSWER 19 OF 41 HCPLUS COPYRIGHT 2005 ACS on STN

AN 1997:619443 HCPLUS

DN 127:307758

TI Oligo(ether sulfones). Part 2. Synthesis of a novel macrocyclic aromatic ether sulfone bearing two carboxylic groups and the corresponding polyamide via direct condensation of the macrocycle with 4,4'-diaminodiphenylmethane

AU Rodewald, Barbara; Ritter, Helmut

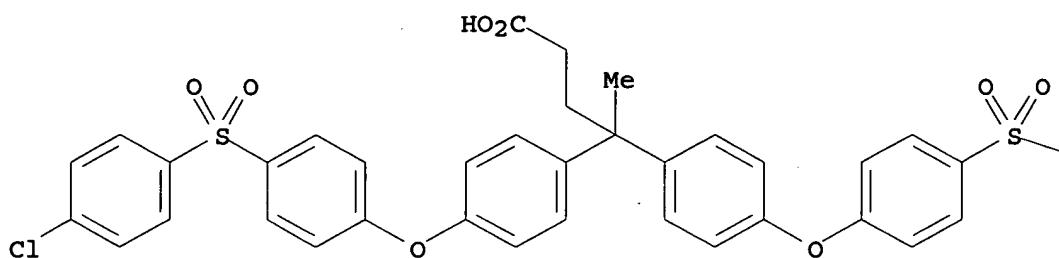
CS Fachbereich Organic Chemistry Macromolecular Chemistry, Bergische Universitat Wuppertal, Wuppertal, D-42097, Germany

SO Macromolecular Rapid Communications (1997), 18(9), 817-825
 CODEN: MRCOE3; ISSN: 1022-1336

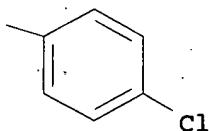
PB Huethig & Wepf

DT Journal
LA English
AB A new macrocyclic arylene ether sulfone bearing 2 carboxylic groups (I) was prepared by use of pseudo high dilution techniques. In a first step, 4,4-bis[4-(4-(4-chlorophenylsulfonyl)phenoxy)phenyl]pentanoic acid (II) was prepared from bis(4-chlorophenyl) sulfone and an excess of 4,4-bis(4-hydroxyphenyl)pentanoic acid (III). Then, the purified trimer II was cyclocondensed with III, yielding the bifunctionalized macrocycle I. The existence of the ring-shaped mol. was proved by use of MALDI-TOF, NMR, and IR spectroscopy. The free carboxylic groups of I were used to build up polyamides that contain the macrocycle in the main chain and 4,4'-diaminodiphenylmethane as an aromatic diamine.
CC 35-5 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 28
ST polyether polysulfone macrocycle polyimide prep
IT Configuration
Molecular structure
(cis, trans; of a macrocyclic aromatic ether sulfone monomer bearing two carboxylic groups)
IT Polyamides, preparation
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (macrocycle-containing; preparation of a macrocyclic aromatic ether sulfone dicarboxylic acid and corresponding polyamide via direct condensation with diaminodiphenylmethane)
IT 197235-94-2P
RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(monomer, mol. structure; preparation and direct condensation of a macrocyclic aromatic ether sulfone bearing two carboxylic groups)
IT 197235-93-1P
RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and direct condensation of a macrocyclic aromatic ether sulfone bearing two carboxylic groups)
IT 80-07-9 126-00-1, 4,4-Bis(4-hydroxyphenyl)pentanoic acid
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation and direct condensation of a macrocyclic aromatic ether sulfone bearing two carboxylic groups)
IT 197235-95-3P 197235-96-4P
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(preparation of a macrocyclic aromatic ether sulfone dicarboxylic acid and corresponding polyamide via direct condensation with diaminodiphenylmethane)
IT 197235-93-1P
RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and direct condensation of a macrocyclic aromatic ether sulfone bearing two carboxylic groups)
RN 197235-93-1 HCPLUS
CN Benzenebutanoic acid, 4-[4-[(4-chlorophenyl)sulfonyl]phenoxy]- γ -[4-[4-[(4-chlorophenyl)sulfonyl]phenoxy]phenyl]- γ -methyl- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



L21 ANSWER 20 OF 41 HCAPLUS COPYRIGHT 2005 ACS on STN
 AN 1997:448701 HCAPLUS
 DN 127:122281
 TI Synthesis and characterization of soluble fluorescent poly(aryl ether ketone)s
 AU Ruan, Ru-Xiang; Chen, Chun-Hai; Zhou, Hong-Wei; Wang, Jun-Zuo; Wu, Zhong-Wen
 CS Dep. Natl. Defence, State Planning Commission of P.R.C., Beijing, 100084, Peop. Rep. China
 SO Gaodeng Xuexiao Huaxue Xuebao (1997), 18(4), 655-657
 CODEN: KTHPDM; ISSN: 0251-0790
 PB Gaodeng Jiaoyu Chubanshe
 DT Journal
 LA Chinese
 AB The soluble fluorescent poly(aryl ether ketone) polymers were synthesized by nucleophilic substitution reaction of diphenol and aromatic benzene substituted by active fluorine. These polymers have glassy transition temperature of 210 .aprx. 230°. The polymers in solid state and their solns. are all of fluorescence with the color of green and their maximum excitation and emission wavelengths are 420 nm and 487 nm resp. The fluorescent intensity of the polymer solution damp with time delay, but reconstitute when heated to 220° for several minutes.
 CC 37-3 (Plastics Manufacture and Processing)
 ST soluble fluorescent polyaryl ether ketones
 IT Polyketones
 Polyketones
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (polyether-, aromatic; preparation and characterization of soluble fluorescent poly(aryl ether ketone)s)
 IT Polyethers, preparation
 Polyethers, preparation
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)

(polyketone-, aromatic; preparation and characterization of soluble fluorescent poly(aryl ether ketone)s)

IT Fluorescence
Glass transition temperature
(preparation and characterization of soluble fluorescent poly(aryl ether ketone)s)

IT 192699-93-7P
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(model compound; preparation and characterization of soluble fluorescent poly(aryl ether ketone)s)

IT 81-90-3P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(monomer; preparation and characterization of soluble fluorescent poly(aryl ether ketone)s)

IT 125976-97-8P 125998-03-0P 192699-94-8P 192699-95-9P 192699-96-0P
192699-97-1P
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(preparation and characterization of soluble fluorescent poly(aryl ether ketone)s)

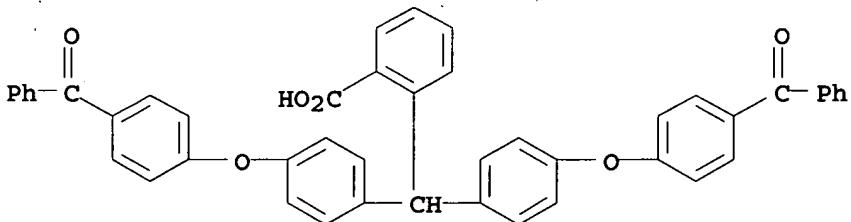
IT 345-83-5, 4-Fluorobenzophenone
RL: RCT (Reactant); RACT (Reactant or reagent)
(starting material for model compound; preparation and characterization of soluble fluorescent poly(aryl ether ketone)s)

IT 77-09-8, Phenolphthalein
RL: RCT (Reactant); RACT (Reactant or reagent)
(starting material for monomer; preparation and characterization of soluble fluorescent poly(aryl ether ketone)s)

IT 192699-93-7P
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(model compound; preparation and characterization of soluble fluorescent poly(aryl ether ketone)s)

RN 192699-93-7 HCAPLUS

CN Benzoic acid, 2-[bis[4-(4-benzoylphenoxy)phenyl]methyl]- (9CI) (CA INDEX NAME)



L21 ANSWER 21 OF 41 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1997:86707 HCAPLUS
DN 126:144617
TI Synthesis and characterization of fluorinated poly(aryl ether ketone)s containing 1,4-naphthalene moieties
AU Mercer, Frank W.; Fone, Matilda M.; McKenzie, Martin T.
CS Corporate Research Development, Raychem Corporation, Menlo Park, CA, 94025, USA
SO Journal of Polymer Science, Part A: Polymer Chemistry (1997), 35(3),

521-526

CODEN: JPACEC; ISSN: 0887-624X

PB Wiley

DT Journal

LA English

AB The new monomer 2,2-bis[4-(4-{4-fluorobenzoyl}-1-naphthoxy)phenyl]hexafluoropropane (I) was synthesized in a two-step reaction sequence. 2,2-Bis[4-(1-naphthoxy)phenyl]-hexafluoropropane (II) was prepared using the Illmann ether synthesis reaction of 4,4-(hexafluoroisopropylidene)diphenol with 1-bromonaphthalene. Friedel-Crafts acylation of II with 4-fluorobenzoyl chloride in methylene chloride containing dimethylsulfone selectively afforded I in 82% yield. The polycondensation of I with various bisphenols in DMAc in the presence of an excess of potassium carbonate as a condensation reagent was carried out at 165°C to quant. afford the corresponding fluorinated poly(aryl ether ketone)s containing 1,4-naphthalene moieties. Thermal anal. of the polymers showed them to have Tgs ranging from 194 to 230°C and to be thermally stable in air up with initial weight losses at about 500°C. In addition, these novel polymers exhibited excellent solubility in organic solvents including NMP, DMAc, and chloroform.

CC 35-5 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 36

ST polyether polyketone polysulfone fluoropolymer aryl synthesis; cardo polyether polyketone fluoropolymer synthesis; dielec const aryl polyether polyketone fluoropolymer; glass temp aryl polyether polyketone fluoropolymer; naphthalene contg aryl polyether polyketone fluoropolymer; humidity dielec const arom polyether polyketone; fluorobenzoyl naphthoxyphenyl hexafluoropropane monomer prepn polymn

IT Dielectric constant

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (fluorine-containing; of fluorinated poly(aryl ether ketone)s containing 1,4-naphthalene moieties)

IT Glass transition temperature

(of fluorinated poly(aryl ether ketone)s containing 1,4-naphthalene moieties)

IT Polyketones

Polyketones

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (polyether-, aromatic, cardo, fluorine-containing; preparation and characterization of fluorinated poly(aryl ether ketone)s containing 1,4-naphthalene moieties)

IT Polyketones

Polyketones

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (polyether-, aromatic, fluorine-containing, cardo; preparation and characterization of fluorinated poly(aryl ether ketone)s containing 1,4-naphthalene moieties)

IT Polyketones

Polyketones

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (polyether-, cardo, aromatic, fluorine-containing; preparation and characterization of fluorinated poly(aryl ether ketone)s containing 1,4-naphthalene moieties)

IT Polyketones

Polyketones

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (polyether-, fluorine-containing, aromatic, cardo; preparation and characterization of fluorinated poly(aryl ether ketone)s containing 1,4-naphthalene

moieties)

IT Polyketones

Polyketones

Polyketones

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(polyether-, fluorine-containing; preparation and characterization of
fluorinated poly(aryl ether ketone)s containing 1,4-naphthalene moieties)

IT Fluoropolymers, preparation

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(polyether-polyketone-, aromatic, cardo; preparation and characterization of
fluorinated poly(aryl ether ketone)s containing 1,4-naphthalene moieties)

IT Polysulfones, preparation

Polysulfones, preparation

Polysulfones, preparation

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(polyether-polyketone-, aromatic, fluorine-containing; preparation and
characterization of fluorinated poly(aryl ether ketone)s containing
1,4-naphthalene moieties)

IT Polysulfones, preparation

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(polyether-polyketone-, fluorine-containing, aromatic; preparation and
characterization of fluorinated poly(aryl ether ketone)s containing
1,4-naphthalene moieties)

IT Fluoropolymers, preparation

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(polyether-polyketone-, preparation and characterization of fluorinated
poly(aryl ether ketone)s containing 1,4-naphthalene moieties)

IT Fluoropolymers, preparation

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(polyether-polyketone-polysulfone-, aromatic; preparation and
characterization
of fluorinated poly(aryl ether ketone)s containing 1,4-naphthalene
moieties)

IT Cardo polymers

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(polyether-polyketones, aromatic, fluorine-containing; preparation and
characterization of fluorinated poly(aryl ether ketone)s containing
1,4-naphthalene moieties)

IT Polyketones

Polyketones

Polyketones

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(polyether-polysulfone-, aromatic, fluorine-containing; preparation and
characterization of fluorinated poly(aryl ether ketone)s containing
1,4-naphthalene moieties)

IT Polyketones

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(polyether-polysulfone-, fluorine-containing, aromatic; preparation and
characterization of fluorinated poly(aryl ether ketone)s containing
1,4-naphthalene moieties)

IT Polyethers, preparation

Polyethers, preparation

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(polyketone-, aromatic, cardo, fluorine-containing; preparation and
characterization of fluorinated poly(aryl ether ketone)s containing
1,4-naphthalene moieties)

IT Polyethers, preparation

Polyethers, preparation

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(polyketone-, aromatic, fluorine-containing, cardo; preparation and

characterization of fluorinated poly(aryl ether ketone)s containing 1,4-naphthalene moieties)

IT Polyethers, preparation
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (polyketone-, cardo, aromatic, fluorine-containing; preparation and characterization of fluorinated poly(aryl ether ketone)s containing 1,4-naphthalene moieties)

IT Polyethers, preparation
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (polyketone-, fluorine-containing, aromatic, cardo; preparation and characterization of fluorinated poly(aryl ether ketone)s containing 1,4-naphthalene moieties)

IT Polyethers, preparation
Polyethers, preparation
Polyethers, preparation
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (polyketone-, fluorine-containing; preparation and characterization of fluorinated poly(aryl ether ketone)s containing 1,4-naphthalene moieties)

IT Polyethers, preparation
Polyethers, preparation
Polyethers, preparation
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (polyketone-polysulfone-, aromatic, fluorine-containing; preparation and characterization of fluorinated poly(aryl ether ketone)s containing 1,4-naphthalene moieties)

IT Polyethers, preparation
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (polyketone-polysulfone-, fluorine-containing, aromatic; preparation and characterization of fluorinated poly(aryl ether ketone)s containing 1,4-naphthalene moieties)

IT 90-11-9, 1-Bromonaphthalene 403-43-0, 4-Fluorobenzoyl chloride
1478-61-1
RL: RCT (Reactant); RACT (Reactant or reagent)
(monomer synthesis; preparation and characterization of fluorinated poly(aryl ether ketone)s containing 1,4-naphthalene moieties)

IT 186751-19-9P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(monomer; preparation and characterization of fluorinated poly(aryl ether ketone)s containing 1,4-naphthalene moieties)

IT 584-08-7, Potassium carbonate
RL: CAT (Catalyst use); USES (Uses)
(polymerization catalyst; preparation and characterization of fluorinated poly(aryl ether ketone)s containing 1,4-naphthalene moieties)

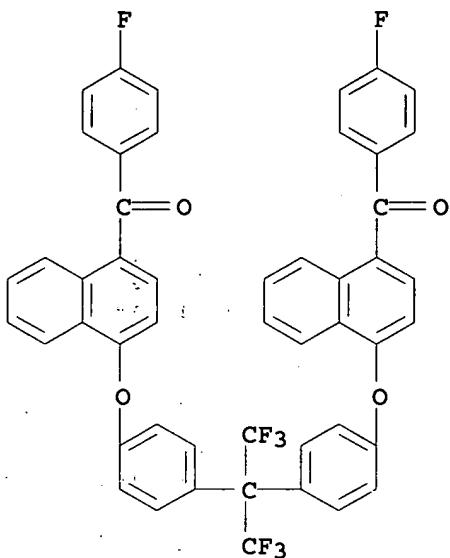
IT 186751-20-2P 186751-21-3P 186751-22-4P 186751-23-5P 186751-24-6P
186751-25-7P 186751-26-8P 186751-27-9P 186751-28-0P 186751-29-1P
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(preparation and characterization of fluorinated poly(aryl ether ketone)s containing 1,4-naphthalene moieties)

IT 136951-69-4P, 2,2-Bis[4-(1-naphthoxy)phenyl]-hexafluoropropane
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and characterization of fluorinated poly(aryl ether ketone)s containing 1,4-naphthalene moieties)

IT 186751-19-9P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(monomer; preparation and characterization of fluorinated poly(aryl ether ketone)s containing 1,4-naphthalene moieties)

RN 186751-19-9 HCAPLUS

CN Methanone, [[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis(4,1-phenyleneoxy-4,1-naphthalenediyl)]bis[(4-fluorophenyl)- (9CI) (CA INDEX NAME)]

RE.CNT 18 THERE ARE 18 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L21 ANSWER 22 OF 41 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1996:246190 HCAPLUS

DN 124:290447

TI "One-pot" synthesis of poly(amide-imide)s derived from trimellitic acid monoesters and multiring aromatic diamines

AU Avella, Nicola; Maglio, Giovanni; Palumbo, Rosario

CS Dipartimento Chimica, Universita Federico II, Naples, I-80134, Italy

SO Journal of Polymer Science, Part A: Polymer Chemistry (1996), 34(7), 1219-27

CODEN: JPACEC; ISSN: 0887-624X

PB Wiley

DT Journal

LA English

AB Aromatic processable poly(amide-imide)s were prepared according to the Yamazaki and Higashi phosphorylation reaction from flexible aromatic diamines and a mixture of isomeric 1,2,4-benzenetricarboxylic acid monoethyl esters following a novel one-pot procedure. The polymerization was performed in 1-methyl-2-pyrrolidone/LiCl solns. using triphenylphosphite and pyridine as condensing agents to form amide bonds. Cyclization of the intermediate poly(amide-amic Et ester) occurred by eliminating ethanol under the polymerization conditions used, thus leading to the formation of imide rings. The influence of several parameters which regulate the d.p. and the formation of the imide rings, such as reaction temperature, triphenylphosphite/monomer molar ratio, and pyridine concentration was carefully studied. In particular, the catalytic activity of pyridine in the imidization reaction was demonstrated. ¹³C-NMR spectroscopy was used to show the absence of constitutional regularity in the prepared PAIs, thus indicating equal reactivity toward polycondensation of the 2 different carboxyl groups of the 1,2,4-benzenetricarboxylic acid monoethyl esters.

CC 35-5 (Chemistry of Synthetic High Polymers)
ST polyamide imide trimellitic acid diamine prep; benzenetricarboxylic acid
one pot polymn polyimide
IT Polyamic acids
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
(Reactant or reagent)
(Et esters; one-pot synthesis and microstructure of poly(amide-imide)s
of trimellitic acid esters and aromatic diamines)
IT Polymerization
(direct condensation and imidization; one-pot synthesis and
microstructure of poly(amide-imide)s of trimellitic acid esters and
aromatic diamines)
IT Reactivity ratio in polymerization
(of tricarboxylic acid groups in condensation; one-pot synthesis and
microstructure of poly(amide-imide)s of trimellitic acid esters and
aromatic diamines)
IT Chains, chemical
Polymer morphology
(random distribution; one-pot synthesis and microstructure of
poly(amide-imide)s of trimellitic acid esters and aromatic diamines)
IT Polyimides, preparation
RL: SPN (Synthetic preparation); PREP (Preparation)
(polyamide-polyether-, aromatic, one-pot synthesis and microstructure of
poly(amide-imide)s of trimellitic acid esters and aromatic diamines)
IT Polyimides, preparation
RL: SPN (Synthetic preparation); PREP (Preparation)
(polyamide-polyether-, aromatic, fluorine-containing, one-pot synthesis and
microstructure of poly(amide-imide)s of trimellitic acid esters and
aromatic diamines)
IT Fluoropolymers
RL: SPN (Synthetic preparation); PREP (Preparation)
(polyamide-polyether-polyimide-, aromatic, one-pot synthesis and
microstructure of poly(amide-imide)s of trimellitic acid esters and
aromatic diamines)
IT Polyethers, preparation
RL: SPN (Synthetic preparation); PREP (Preparation)
(polyamide-polyimide-, aromatic, one-pot synthesis and microstructure of
poly(amide-imide)s of trimellitic acid esters and aromatic diamines)
IT Polyethers, preparation
RL: SPN (Synthetic preparation); PREP (Preparation)
(polyamide-polyimide-, aromatic, fluorine-containing, one-pot synthesis and
microstructure of poly(amide-imide)s of trimellitic acid esters and
aromatic diamines)
IT Polyamides, preparation
RL: SPN (Synthetic preparation); PREP (Preparation)
(polyether-polyimide-, aromatic, one-pot synthesis and microstructure of
poly(amide-imide)s of trimellitic acid esters and aromatic diamines)
IT Polyamides, preparation
RL: SPN (Synthetic preparation); PREP (Preparation)
(polyether-polyimide-, aromatic, fluorine-containing, one-pot synthesis and
microstructure of poly(amide-imide)s of trimellitic acid esters and
aromatic diamines)
IT 101-02-0, Triphenylphosphite
RL: NUU (Other use, unclassified); USES (Uses)
(condensing agent; one-pot synthesis and microstructure of
poly(amide-imide)s of trimellitic acid esters and aromatic diamines)
IT 83048-51-5P, N,N-Bis(1,4-phenylene)-4,4'-(isopropylidene-bis(1,4-
phenylene)dioxy]benzamide 93933-29-0P, N,N-Bis(1,4-phenylene)-4,4'-(
isopropylidene-bis(1,4-phenylene)dioxy]diphthalimide
RL: SPN (Synthetic preparation); PREP (Preparation)

(imide model compound; one-pot synthesis and microstructure of poly(amide-imide)s of trimellitic acid esters and aromatic diamines)

IT 110-86-1, Pyridine, uses
 RL: CAT (Catalyst use); USES (Uses)
 (imidization catalyst; one-pot synthesis and microstructure of poly(amide-imide)s of trimellitic acid esters and aromatic diamines)

IT 7447-41-8, Lithium chloride, uses
 RL: NUU (Other use, unclassified); USES (Uses)
 (one-pot synthesis and microstructure of poly(amide-imide)s of trimellitic acid esters and aromatic diamines)

IT 137667-35-7P 176180-55-5P 176180-56-6P 176180-57-7P 176180-58-8P
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (one-pot synthesis and microstructure of poly(amide-imide)s of trimellitic acid esters and aromatic diamines)

IT 85-44-9, Phthalic anhydride 98-88-4, Benzoyl chloride 13080-86-9,
 4,4'-(Isopropylidene-bis(1,4-phenylene)dioxy)dianiline
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (one-pot synthesis and microstructure of poly(amide-imide)s of trimellitic acid esters and aromatic diamines)

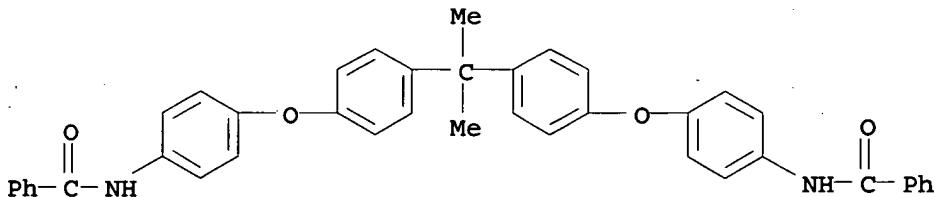
IT 872-50-4, 1-Methyl-2-pyrrolidone, uses
 RL: NUU (Other use, unclassified); USES (Uses)
 (polymerization solvent; one-pot synthesis and microstructure of poly(amide-imide)s of trimellitic acid esters and aromatic diamines)

IT 68-12-2, N,N-Dimethylformamide, uses 127-19-5, N,N-Dimethylacetamide
 RL: NUU (Other use, unclassified); USES (Uses)
 (solvent; one-pot synthesis and microstructure of poly(amide-imide)s of trimellitic acid esters and aromatic diamines)

IT 83048-51-5P, N,N-Bis(1,4-phenylene)-4,4'-(isopropylidene-bis(1,4-phenylene)dioxy)benzamide
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (imide model compound; one-pot synthesis and microstructure of poly(amide-imide)s of trimellitic acid esters and aromatic diamines)

RN 83048-51-5 HCAPLUS

CN Benzamide, N,N'-(1-methylethylidene)bis(4,1-phenyleneoxy-4,1-phenylene)bis- (9CI) (CA INDEX NAME)



L21 ANSWER 23 OF 41 HCAPLUS COPYRIGHT 2005 ACS on STN
 AN 1996:69607 HCAPLUS
 DN 124:118130
 TI A novel radical polymerization of 2,2',3,3',5,5'-hexaphenyl-1,1'-biphenyl-4,4'-dioxy with monomers containing activated methylene groups
 AU Barbiero, Gennaro; Hay, Allan S.
 CS Dep. Chem., McGill Univ., Montreal, QC, H3A 2K6, Can.
 SO Journal of Polymer Science, Part A: Polymer Chemistry (1996), 34 (3), 507-11
 CODEN: JPACEC; ISSN: 0887-624X
 PB Wiley
 DT Journal
 LA English

AB A novel polymerization of 2,2',3,3',5,5'-hexaphenyl-1,1'-biphenyl-4,4'-diol with

a series of activated dimethylene monomers in a two-phase oxidation at 60° in the absence of oxygen was studied. The resulted polymers are soluble in common organic solvents and are quant. cleaved upon heating to low mol. weight species. The cleavage reaction makes them interesting candidates for photoresist materials.

CC 35-4 (Chemistry of Synthetic High Polymers)

ST hexaphenyl biphenyl diol oxidn radical polymn; activated methylene diol radical polymn; polyether polyketone prep hexaphenyl biphenyl diol

IT Glass temperature and transition

Polymer degradation

(radical polymerization of hexaphenylbiphenyldiol with monomers containing activated methylene groups)

IT Polyethers, preparation

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (radical polymerization of hexaphenylbiphenyldiol with monomers containing activated methylene groups)

IT Polyketones

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (polyether-, radical polymerization of hexaphenylbiphenyldiol with monomers containing activated methylene groups)

IT Polyketones

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (polyether-polythioether-, radical polymerization of hexaphenylbiphenyldiol with monomers containing activated methylene groups)

IT Polyethers, preparation

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (polyketone-, radical polymerization of hexaphenylbiphenyldiol with monomers containing activated methylene groups)

IT Polyethers, preparation

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (polyketone-polythioether-, radical polymerization of hexaphenylbiphenyldiol with monomers containing activated methylene groups)

IT Polymerization

(radical, radical polymerization of hexaphenylbiphenyldiol with monomers containing activated methylene groups)

IT Polyethers, preparation

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (thio-, polyether-polyketone-, radical polymerization of hexaphenylbiphenyldiol with monomers containing activated methylene groups)

IT 139599-68-1P 173219-84-6P, 1-Hydroxy-3-(phenylthiomethyl)benzene

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(intermediate; radical polymerization of hexaphenylbiphenyldiol with monomers containing activated methylene groups)

IT 160085-44-9P, 4,4'-Bis(cyclohex-2-eneoxy)-2,2'3,3',5,5'-hexaphenyl-1,1'-biphenyl 166256-59-3P, (Phenylene-1,3-dimethyl)-bis(carbazole)

173219-71-1P, Bis{4-[3-(phenylthiomethyl)phenyleneoxy]phenylene}me thanone 173219-72-2P, Bis[4-(4-(phenylmethyl)phenyleneoxy)phenyl ene]methanone 173219-73-3P, 1,8-Bis[4-(phenylmethyl)phenyleneoxy]octane

RL: RCT (Reactant); SPN (Synthetic preparation); PREP

(Preparation); RACT (Reactant or reagent)

(monomer; radical polymerization of hexaphenylbiphenyldiol with monomers containing activated methylene groups)

IT 173219-74-4P, Bis[4-(4-(phenylmethyl)phenyleneoxy)phenylene]methanone-2,2'3,3',5,5'-hexaphenyl-1,1'-biphenyl-4,4'-diol copolymer 173219-75-5P,

Bis[4-(4-(phenylmethyl)phenyleneoxy)phenylene]methanone-2,2'3,3',5,5'-hexaphenyl-1,1'-biphenyl-4,4'-diol copolymer, sru 173219-76-6P,

1,8-Bis[4-(phenylmethyl)phenyleneoxy]octane-2,2'3,3',5,5'-hexaphenyl-1,1'-biphenyl-4,4'-diol copolymer 173219-77-7P, 1,8-Bis[4-(phenylmethyl)phenyleneoxy]octane-2,2'3,3',5,5'-hexaphenyl-1,1'-biphenyl-4,4'-diol copolymer, sru 173219-78-8P, Bis[4-(3-(phenylthiomethyl)phenyleneoxy)phenylene]methanone-2,2'3,3',5,5'-hexaphenyl-1,1'-biphenyl-4,4'-diol copolymer 173219-79-9P 173219-80-2P, (Phenylene-1,3-dimethyl)-bis(carbazole)-2,2'3,3',5,5'-hexaphenyl-1,1'-biphenyl-4,4'-diol copolymer 173219-81-3P, (Phenylene-1,3-dimethyl)-bis(carbazole)-2,2'3,3',5,5'-hexaphenyl-1,1'-biphenyl-4,4'-diol copolymer, sru 173219-82-4P, 4,4'-Bis(cyclohex-2-eneoxy)-2,2'3,3',5,5'-hexaphenyl-1,1'-biphenyl-2,2'3,3',5,5'-hexaphenyl-1,1'-biphenyl-4,4'-diol copolymer 173219-83-5P, 4,4'-Bis(cyclohex-2-eneoxy)-2,2'3,3',5,5'-hexaphenyl-1,1'-biphenyl-2,2'3,3',5,5'-hexaphenyl-1,1'-biphenyl-4,4'-diol copolymer, sru

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (radical polymerization of hexaphenylbiphenyldiol with monomers containing activated methylene groups)

IT 137142-52-0, 2,2'3,3',5,5'-Hexaphenyl-1,1'-biphenyl-4,4'-diol

RL: RCT (Reactant); RACT (Reactant or reagent) (starting material, monomer; radical polymerization of hexaphenylbiphenyldiol with monomers containing activated methylene groups)

IT 86-74-8, Carbazole 101-53-1, 4-Benzylphenol 108-98-5, Thiophenol, reactions 110-82-7, Cyclohexane, reactions 345-92-6, 4,4'-Difluorobenzophenone 626-16-4 824-98-6, 3-Methoxybenzylchloride 4549-32-0, 1,8-Dibromoocetane

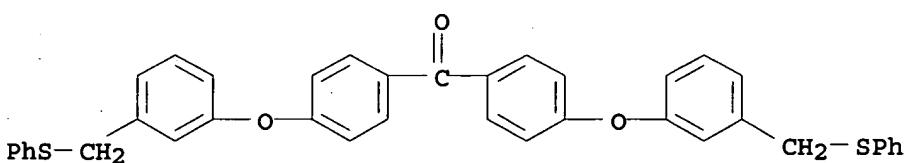
RL: RCT (Reactant); RACT (Reactant or reagent) (starting material; radical polymerization of hexaphenylbiphenyldiol with monomers containing activated methylene groups)

IT 173219-71-1P, Bis{4-[3-(phenylthiomethyl)phenyleneoxy]phenylene}methanone 173219-72-2P, Bis[4-(4-(phenylmethyl)phenyleneoxy)phenylene]methanone

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent) (monomer; radical polymerization of hexaphenylbiphenyldiol with monomers containing activated methylene groups)

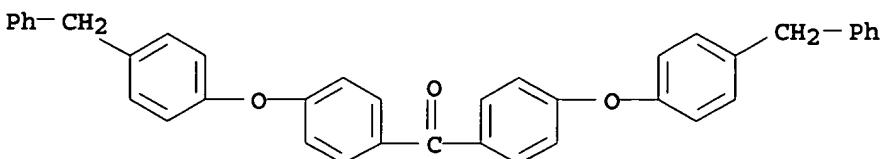
RN 173219-71-1 HCPLUS

CN Methanone, bis[4-[3-[(phenylthio)methyl]phenoxy]phenyl] - (9CI) (CA INDEX NAME)



RN 173219-72-2 HCPLUS

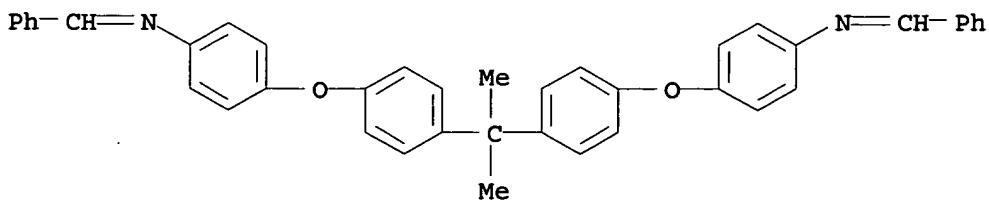
CN Methanone, bis[4-[4-(phenylmethyl)phenoxy]phenyl] - (9CI) (CA INDEX NAME)



L21 ANSWER 24 OF 41 HCPLUS COPYRIGHT 2005 ACS on STN
 AN 1995:997008 HCPLUS
 DN 124:88124
 TI Bisazomethines as monomers for thermally stable polymers
 IN Semenova, Albina I.; Gefter, Evgenij L.; Semernitskaya, Marina N.;
 Nikonova, Stella N.; Anisimova, Mariya V.; Shuvalova, Galina I.; Shmakova,
 Olga E.
 PA AktSIONERNOE OБSHCHESTVO OTKRYTOGO TIPO "NAUCHNO-ISSLEDOVATEL'SKIJ INSTITUT
 PLASTICHESKIH MASS IM.G.S. PETROVA, RUSSIA; Optynym Moskovskim Zavodom
 Plastmass"
 SO Russ.
 From: Izobreteniya 1995, (13), 176-7.
 CODEN: RUXXE7
 DT Patent
 LA Russian
 FAN.CNT 1

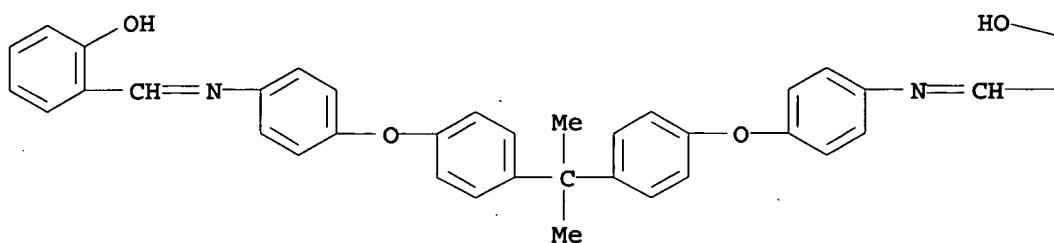
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI RU 2034830	C1	19950510	RU 1992-2533	19921027
PRAI RU 1992-2533		19921027		

AB Title only translated.
 IC ICM C07C251-24
 CC 35-2 (Chemistry of Synthetic High Polymers)
 Section cross-reference(s): 25
 ST bisazomethine monomer heat resistant polymer
 IT Heat-resistant materials
 (bisazomethine monomers for thermally stable polymers)
 IT Monomers
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT
 (Reactant or reagent)
 (bisazomethine monomers for thermally stable polymers)
 IT 172682-90-5P 172682-91-6P 172682-92-7P
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP
 (Preparation); RACT (Reactant or reagent)
 (bisazomethine monomers for thermally stable polymers)
 IT 172682-90-5P 172682-91-6P
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP
 (Preparation); RACT (Reactant or reagent)
 (bisazomethine monomers for thermally stable polymers)
 RN 172682-90-5 HCPLUS
 CN Benzenamine, 4,4'-[(1-methylethylidene)bis(4,1-phenyleneoxy)]bis[N-
 (phenylmethylene)- (9CI) (CA INDEX NAME)

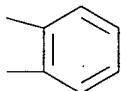


RN 172682-91-6 HCPLUS
 CN Phenol, 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxy-4,1-
 phenylene)trilomethylidyne]bis- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



L21 ANSWER 25 OF 41 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1994:271849 HCAPLUS

DN 120:271849

TI Synthesis and characterization of 3-phenylethynyl-endcapped matrix resins

AU Jayaraman, S.; Meyer, G.; Moy, T. M.; Srinivasan, R.; McGrath, J. E.

CS Dep. Chem., Virginia Polytech. Inst. and State Univ., Blacksburg, VA, 24061-0344, USA

SO Polymer Preprints (American Chemical Society, Division of Polymer Chemistry) (1993), 34(1), 513-14
CODEN: ACPPAY; ISSN: 0032-3934

DT Journal

LA English

AB Ph ethynyl-based arylene ether matrix resins were prepared from 4,4-dichlorodiphenylsulfone, 4,4-difluorobenzophenone, and bis(p-fluorophenyl)phenyl phosphine oxide using 3-phenylethynyl phenol endcapper under standard poly(arylene ether) conditions. All materials exhibited very low melting temps., an onset of cure at around 350°, and a very wide processing window. Polyimide oligomers endcapped with phenylethynyl aniline were prepared via a one-pot solution imidization involving ester-acid and diamine monomers, yielding highly imidized controlled-mol.-weight Ph acetylene-functionalized polyimides. Upon curing, insol. highly crosslinked films were obtained with high thermooxidative stability.

CC 37-3 (Plastics Manufacture and Processing)

ST polyacetylene prepн characterization; phenylethynyl endcapper polyacetylene prepн; fluoropolymer polyimide phenylethynyl aniline terminated; polyether fluoropolymer polyimide end capped; aniline phenylethynyl endcapper polyimide prepн

IT Glass temperature and transition

(of fluoro-containing polyimides or polyether-polyimides)

IT Polyacetylenes, preparation

RL: PEP (Physical, engineering or chemical process); PROC (Process) (preparation and characterization of)

IT Polyimides, preparation

RL: SPN (Synthetic preparation); PREP (Preparation) (fluorine-containing, acetylene-terminated, preparation and characterization of)

IT Polyimides, preparation

RL: SPN (Synthetic preparation); PREP (Preparation)

(polyether-, fluorine-containing, acetylene-terminated, preparation and characterization of)

IT Fluoropolymers
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (polyether-polyimide-, acetylene-terminated, preparation and characterization of)

IT Fluoropolymers
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (polyimide-, acetylene-terminated, preparation and characterization of)

IT Polyethers, preparation
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (polyimide-, fluorine-containing, acetylene-terminated, preparation and characterization of)

IT 51624-44-3, 3-Phenylethynyl aniline
 RL: USES (Uses)
 (endcapper, for arylene ether resins, preparation and characterization of)

IT 96250-69-0P 154951-31-2P 154951-32-3P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation and characterization and curing of)

IT 32240-73-6DP, phenylethynyl aniline-end-capped 40921-63-9DP,
 phenylethynyl aniline-end-capped 96250-70-3P 145849-93-0P
 154951-33-4P 154951-34-5P 154951-35-6P
 RL: PEP (Physical, engineering or chemical process); SPN (Synthetic preparation); PREP (Preparation); PROC (Process)
 (preparation and characterization of)

IT 108-86-1, Bromobenzene, reactions
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with aminophenylacetylene)

IT 54060-30-9, 3-Aminophenylacetylene
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with bromobenzene)

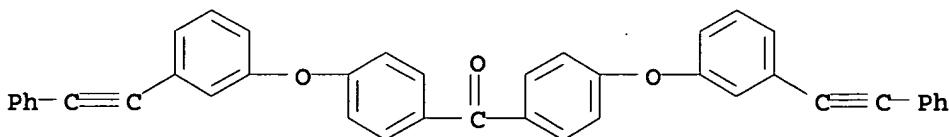
IT 111731-38-5
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with dihalomonomers)

IT 80-07-9 345-92-6 54300-32-2
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with phenylethynylphenol)

IT 154951-31-2P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation and characterization and curing of)

RN 154951-31-2 HCPLUS

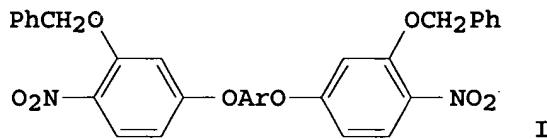
CN Methanone, bis[4-[3-(phenylethynyl)phenoxy]phenyl] - (9CI) (CA INDEX NAME)



L21 ANSWER 26 OF 41 HCPLUS COPYRIGHT 2005 ACS on STN
 AN 1994:164950 HCPLUS
 DN 120:164950
 TI The synthesis of 6F bis(o-aminophenol) monomers by a nucleophilic substitution reaction
 AU Winzeler, Jacqueline T.; Patel, Bharat P.; Feld, William A.
 CS Dep. Chem., Wright State Univ., Dayton, OH, 45435, USA
 SO Polymer Preprints (American Chemical Society, Division of Polymer

Chemistry) (1993), 34(1), 425-6
CODEN: ACPPAY; ISSN: 0032-3934

DT Journal
LA English
GI



AB The preparation of I [Ar = m-C₆H₄, p-C₆H₄, p-C₆H₄CF₃ 2-p-C₆H₄ (II), or p-C₆H₄CMe₂-p-C₆H₄] by reacting 2-(benzyloxy)-4-fluoro-2-nitrobenzene with the corresponding diphenol is reported. Hydrogenation of II gives the 6F bis(o-aminophenol) as a monomer for the preparation of F-containing polybenzoxazoles.

CC 35-2 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 25

ST fluoroisopropylidenebisaminophenol monomer prepn; bisaminophenol fluorine contg monomer prepn

IT 153614-67-6P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and hydrogenation of)

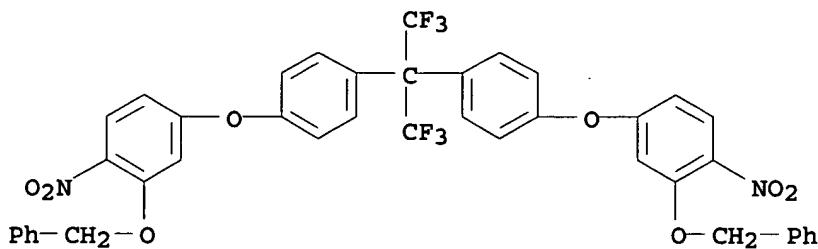
IT 153614-65-4P, m-Bis[3-(benzyloxy)-4-nitrophenoxy]benzene 153614-66-5P,
p-Bis[3-(benzyloxy)-4-nitrophenoxy]benzene 153614-68-7P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

IT 153614-69-8P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of, as monomer for fluorine-containing polybenzoxazoles)

IT 153614-67-6P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and hydrogenation of)

RN 153614-67-6 HCAPLUS

CN Benzene, 1,1'-(2,2,2-trifluoro-1-(trifluoromethyl)ethylidene)bis[4-[4-nitro-3-(phenylmethoxy)phenoxy]- (9CI) (CA INDEX NAME)

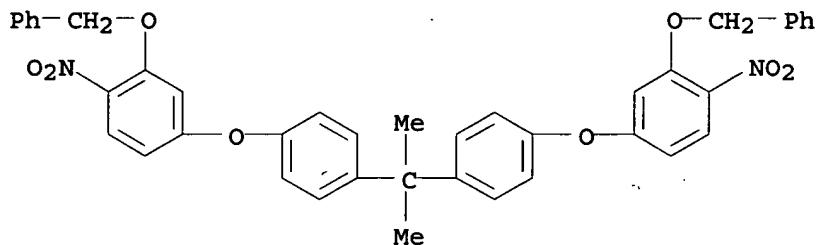


IT 153614-68-7P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

RN 153614-68-7 HCAPLUS

CN Benzene, 1,1'-(1-methylethylidene)bis[4-[4-nitro-3-(phenylmethoxy)phenoxy]-

(9CI) (CA INDEX NAME)



L21 ANSWER 27 OF 41 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1993:22788 HCAPLUS

DN 118:22788

TI Preparation of bisimide from diamine, carbon monoxide, and haloaryl-substituted imide of Nadic acid

IN Turner, S. Richard; Perry, Robert J.; Blevins, Richard W.

PA Eastman Kodak Co., USA

SO U.S., 6 pp.

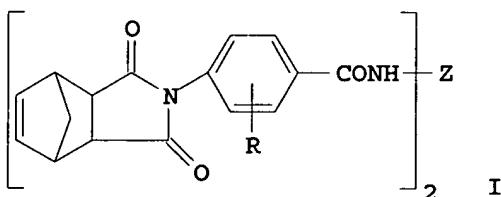
CODEN: USXXAM

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5149824	A	19920922	US 1991-724269	19910701
	CA 2071749	AA	19930102	CA 1992-2071749	19920622
	JP 08027111	A2	19960130	JP 1992-170480	19920629
	EP 521466	A1	19930107	EP 1992-111084	19920630
	R: DE, FR, GB				
PRAI	US 1991-724269	A	19910701		
OS	MARPAT 118:22788				
GI					



AB Compds. I (R = H; alkyl, alkoxy, etc.; Z = divalent aromatic group), useful in the preparation of addition polyimides with good heat resistance, are prepared by

the reaction of an N-(haloaryl) derivative of the imide of Nadic acid with CO and a primary diamine in the presence of a base and a Pd catalyst.

Reacting the N-(4-iodophenyl) derivative of the imide of Nadic acid with CO and 4,4'-oxydianiline in AcNMe₂ in the presence of Ph₃P, bis(triphenylphosphine)palladium chloride and a base gave I (R = H; Z = p-C₆H₄O-p-C₆H₄).

IC ICM C07D209-56

NCL 548435000

CC 35-2 (Chemistry of Synthetic High Polymers)
 Section cross-reference(s): 25

ST Nadic acid diimide prep **monomer**; imide Nadic acid prep **monomer**; iodophenyl Nadic imide reaction **monomer**; polyimide addn Nadic acid imide; bicycloheptenedicarboxylic diimide prep **monomer**; amine Nadic imide deriv **monomer**; carbon monoxide Nadic imide **monomer**; amide Nadic imide deriv **monomer**; crosslinker Nadic imide deriv prep

IT Crosslinking agents
Monomers
 RL: PREP (Preparation)
 (bisimides of Nadic acid, preparation of)

IT Amidation
 (in manufacture of bisimides of Nadic acid)

IT Amidation catalysts
 Carbonylation catalysts
 (palladium compds., in manufacture of bisimides of Nadic acid)

IT Heat-resistant materials
 (polyimides, preparation of, from bisimides of Nadic acid)

IT Polyimides, preparation
 RL: PREP (Preparation)
 (preparation of, bisimides of Nadic acid for)

IT Imides
 RL: PREP (Preparation)
 (di-, preparation of, from Nadic acid, as **monomers**)

IT 603-35-0, Triphenylphosphine, uses 13965-03-2
 RL: CAT (Catalyst use); USES (Uses)
 (catalysts, for reaction of carbon monoxide with (iodophenyl)nadimide and diamine)

IT 6674-22-2, 1,8-Diazabicyclo[5.4.0]undec-7-ene
 RL: USES (Uses)
 (in reaction of carbon monoxide with diamine and (halophenyl)nadimide)

IT 145176-66-5P 145176-67-6P 145176-68-7P
 RL: PREP (Preparation)
 (preparation of, as **monomer** for addition polyimides)

IT 145176-65-4
 RL: USES (Uses)
 (reaction of with oxydianiline and carbon monoxide)

IT 2657-87-6, 3,4'-Oxydianiline
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with (bromophenyl)nadimide and carbon monoxide)

IT 101-80-4
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with (halophenyl)nadimide and carbon monoxide)

IT 630-08-0, Carbon monoxide, reactions
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with (halophenyl)nadimide and diamine)

IT 13080-86-9
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with carbon monoxide and (iodophenyl)nadimide)

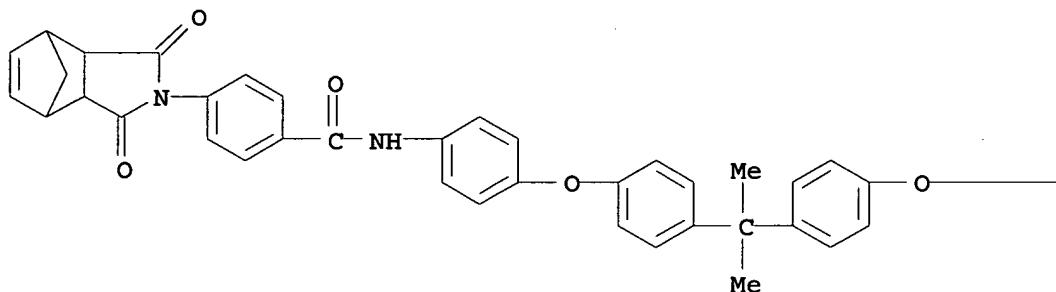
IT 43069-71-2
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with carbon monoxide and oxydianiline)

IT 145176-67-6P
 RL: PREP (Preparation)
 (preparation of, as **monomer** for addition polyimides)

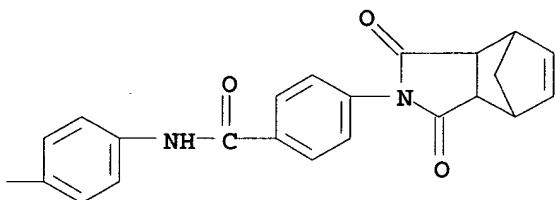
RN 145176-67-6 HCPLUS

CN Benzamide, N,N'-(1-methylethylidene)bis(4,1-phenyleneoxy-4,1-phenylene)bis[4-(1,3,3a,4,7,7a-hexahydro-1,3-dioxo-4,7-methano-2H-isoindol-2-yl)- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



L21 ANSWER 28 OF 41 HCAPLUS COPYRIGHT 2005 ACS on STN
 AN 1992:427488 HCAPLUS

DN 117:27488

TI Fluorinated quinoline polymers and the corresponding fluorinated monomers

IN Hendricks, Neil Hyer

PA Maxdem, Inc., USA

SO PCT Int. Appl., 56 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9203488	A1	19920305	WO 1991-US5741	19910813
	W: CA, JP, KR RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LU, NL, SE				
	CA 2089092	AA	19920217	CA 1991-2089092	19910813
	CA 2089092	C	20030610		
	EP 543950	A1	19930602	EP 1991-918525	19910813
	EP 543950	B1	19980624		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE				
	US 5247050	A	19930921	US 1991-744539	19910813
	JP 06500591	T2	19940120	JP 1991-517795	19910813
	JP 3135123	B2	20010213		
	EP 752440	A1	19970108	EP 1996-114313	19910813
	EP 752440	B1	20010627		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE				
	AT 167687	E	19980715	AT 1991-918525	19910813
	AT 202582	E	20010715	AT 1996-114313	19910813
	US 5344981	A	19940906	US 1993-98197	19930728

PRAI US 1990-568059 A 19900816
 EP 1991-918525 A3 19910813
 US 1991-744539 A3 19910813
 WO 1991-US5741 W 19910813

AB The title polymers comprise repeating units containing quinoline groups and hexafluoroisopropylidene or 1-aryl-2,2,2-trifluoroethylidene groups. The polymers are useful as dielec. layers in multichip modules in microelectronics, films, fibers, etc. Polymerization of 2,2'-bis[4-(4-acetylphenoxy)phenyl]hexafluoropropane and 3,3'-dibenzoyl-4,4'-diaminobiphenyl in m-cresol/di-Ph phosphate mixture at 90° for 72 h gave a polyquinoline with dielec. constant 2.57.

IC ICM C08G008-02
 ICS C08G012-00; C08G014-00; C08G063-00; C08G073-06; C08G075-00

CC 35-5 (Chemistry of Synthetic High Polymers)
 Section cross-reference(s): 38, 40, 76

ST quinoline polymer fluorine contg; polyquinoline fluoro dielec microelectronic module

IT Radomes
 (fluorine-containing polyquinoline dielecs. for)

IT Electric capacitors
 (fluorine-containing polyquinoline for)

IT Electric insulators and Dielectrics
 (fluorine-containing polyquinolines)

IT Electronic device packaging
 (fluorine-containing polyquinolines for)

IT Fluoropolymers
 RL: PREP (Preparation)
 (polyether-polyquinoline-, preparation of, dielec.)

IT Fluoropolymers
 RL: PREP (Preparation)
 (polyquinoline-, preparation of, dielec.)

IT Polyethers, preparation
 RL: PREP (Preparation)
 (polyquinoline-, fluorine-containing, preparation of, dielec.)

IT Synthetic fibers, polymeric
 RL: PREP (Preparation)
 (polyquinolines, fluorine-containing, preparation of, dielec.)

IT 1102-92-7
 RL: PROC (Process)
 (conversion of, to bis(acetylphenyl)hexafluoropropane)

IT 1882-01-5
 RL: PROC (Process)
 (conversion of, to bis[(acetylphenoxy)phenyl]phenyltrifluoroethane)

IT 142059-49-2P 142059-50-5P 142059-51-6P 142059-52-7P
 142059-53-8P 142059-54-9P 142059-55-0P
 RL: RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
 (preparation and polymerization of)

IT 142084-73-9P 142084-74-0P 142084-75-1P 142084-76-2P 142084-77-3P
 142110-35-8P 142252-00-4P 142252-01-5P 142252-02-6P 142277-14-3P
 142277-15-4P
 RL: PREP (Preparation)
 (preparation of, dielec.)

IT 403-42-9
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with (hexafluoroisopropylidene)diphenol)

IT 1478-61-1, 4,4'-(Hexafluoroisopropylidene)diphenol
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with fluoroacetophenone)

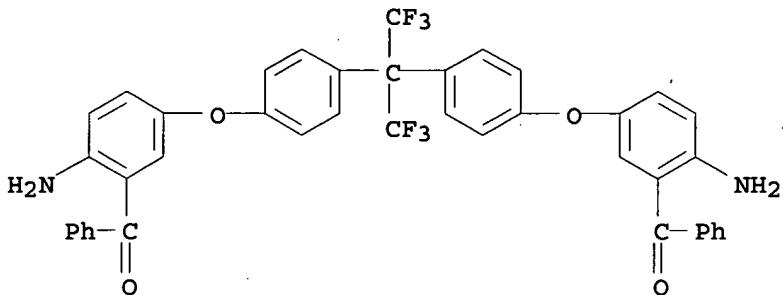
IT 142059-50-5P

RL: RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)

(preparation and polymerization of)

RN 142059-50-5 HCAPLUS

CN Methanone, [[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[4,1-phenyleneoxy(6-amino-3,1-phenylene)]]bis[phenyl- (9CI) (CA INDEX NAME)



L21 ANSWER 29 OF 41 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1992:42258 HCAPLUS

DN 116:42258

TI Film-forming, heat-resistant polyazomethine-polysters with regulated monomer sequences

IN Wada, Keiichiro; Cassidy, Patrick E.; Hager, William S.

PA Nippon Steel Chemical Co., Ltd., Japan

SO U.S., 9 pp.

CODEN: USXXAM

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5066765	A	19911119	US 1990-507536	19900411
	JP 04227627	A2	19920817	JP 1991-101814	19910408

PRAI US 1990-507536 A 19900411

AB Polymers useful as insulators for LSI, solder resists, oriented films for liquid-crystal displays, etc. have the repeating units OZ1C(R):NZ2N:(R)CZ1OCOZ2CO (Z1 = C₆H₄; Z2 = arylene or bisphenol residue; R = H, alkyl, alkoxy, aryl). Thus, 4,4'-oxydianiline and 4-HOC₆H₄CHO gave a Schiff base bisphenol, polymerization of which with 4,4'-(hexafluoroisopropylidene)dibenzoyl chloride in the presence of NaOH and Bu₄N⁺ Br⁻ gave a polyester forming heat-resistant films when cast from CHCl₃.

IC ICM C08G063-00

NCL 52818500

CC 35-5 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 25

ST Schiff base bisphenol polyester; hydroxybenzaldehyde reaction oxydianiline; heat resistance polyazomethine polyester; hexafluoroisopropylidenedibenzooate polyester

IT Polyethers, preparation

RL: PREP (Preparation)

and (polyazomethine-polyester-, fluorine-containing, aromatic, heat-resistant

film-forming, preparation of)

IT Fluoropolymers

RL: PREP (Preparation)
(polyazomethine-polyester-polyether-, aromatic, heat-resistant and
film-forming, preparation of)

IT Polyesters, preparation
RL: PREP (Preparation)
(polyazomethine-polyether-, fluorine-containing, aromatic, heat-resistant
and
film-forming, preparation of)

IT Polyazomethines
RL: PREP (Preparation)
(polyester-polyether-, fluorine-containing, aromatic, heat-resistant and
film-forming, preparation of)

IT Schiff bases
RL: PREP (Preparation)
(polymers, heat-resistant and film-forming, preparation of)

IT 129197-33-7P 129197-35-9P 129197-36-0P 129197-37-1P 129219-47-2P
129219-48-3P 129219-49-4P 129219-50-7P 138692-91-8P 138692-92-9P
138735-58-7P 138735-60-1P
RL: PREP (Preparation)
(heat-resistant and film-forming, preparation of)

IT 82499-47-6P 129197-34-8P 138735-57-6P 138735-59-8P
RL: PREP (Preparation)
(preparation of)

IT 100-83-4, 3-Hydroxybenzaldehyde 123-08-0, 4-Hydroxybenzaldehyde
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with aromatic diamines)

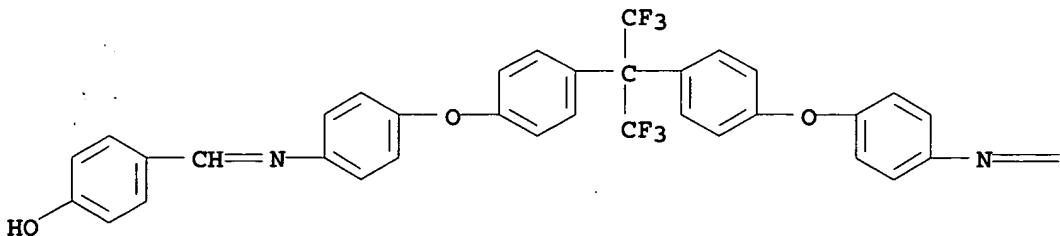
IT 101-80-4, 4,4'-Diaminodiphenyl ether 13080-86-9, 2,2-Bis[4-(4-
aminophenoxy)phenyl]propane 69563-88-8, 2,2-Bis[4-(4-
aminophenoxy)phenyl]hexafluoropropane
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with hydroxybenzaldehyde)

IT 129197-34-8P 138735-57-6P
RL: PREP (Preparation)
(preparation of)

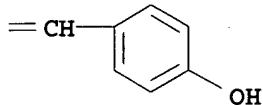
RN 129197-34-8 HCAPLUS

CN Phenol, 4,4'-(2,2,2-trifluoro-1-(trifluoromethyl)ethylidene)bis(4,1-
phenyleneoxy-4,1-phenylenenitrilomethylidyne)bis- (9CI) (CA INDEX NAME)

PAGE 1-A



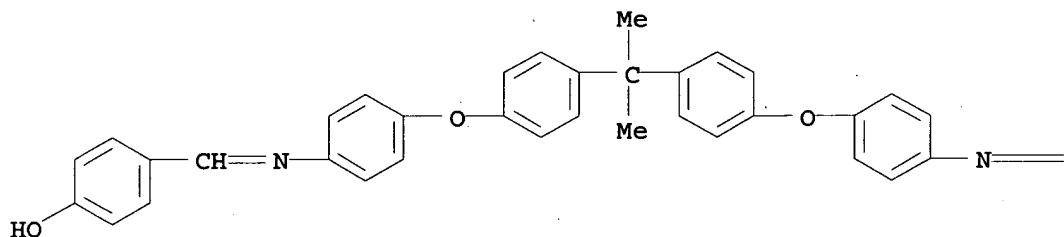
PAGE 1-B



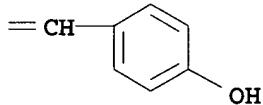
RN 138735-57-6 HCAPLUS

CN Phenol, 4,4'-[(1-methylethylidene)bis(4,1-phenyleneoxy-4,1-phenyleneenitriol)methylidyne]bis- (9CI) (CA INDEX NAME)

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PAGE 1-B



L21 ANSWER 30 OF 41 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1991:633824 HCAPLUS

DN 115:233824

TI Preparation of aromatic ether-ketone polyamines for use as monomers and crosslinking agents

IN Kohli, Dalip K.

PA American Cyanamid Co., USA

SO U.S., 17 pp.

CODEN: USXXAM

DT Patent

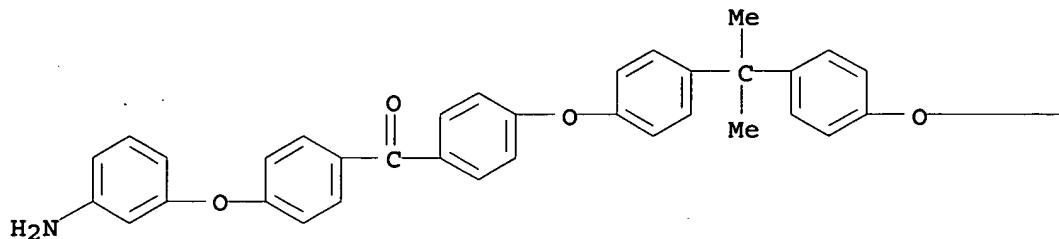
LA English

FAN.CNT 1

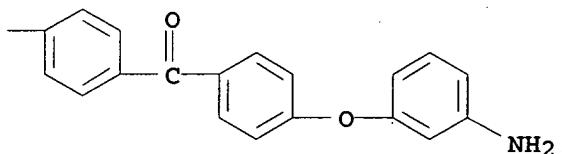
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 5026872	A	19910625	US 1984-576231	19840201
PRAI US 1984-576231			19840201	

OS MARPAT 115:233824
AB The title compds., with the structure H₂NC₆H₄Z₁O-p-C₆H₄CO₂C₆H₄NH₂ [Z₁ = direct bond, CO-p-C₆H₄O-p-C₆H₄, CO-p-C₆H₄O(CH₂)₁₋₁₀, CO-p-C₆H₄O-p-C₆H₄CMe₂-p-C₆H₄, O-p-C₆H₄CO-p-C₆H₄O-p-C₆H₄CMe₂-p-C₆H₄; Z₂ = direct bond, p-C₆H₄C-p-C₆H₄=], are especially useful in curing of epoxy resins. Thus, 3-amino-4'-(m-aminophenoxy)benzophenone (I) was prepared from m-aminophenol and 3-amino-4'-chlorobenzophenone (prepared by reduction of reaction products of m-O₂NC₆H₄COCl with PhCl). Curing Araldite MY020 with 0.75 phr I gave a product with modulus 620 kpsi and tensile strength 17.8 kpsi; vs. 567 and 18.4, resp., with 4,4'-bis(m-aminophenoxy) benzophenone instead of I.
of ICM C07D207-452
IC ICS C07C211-00; C07C213-00; C07C221-00
NCL 548521000
CC 37-6 (Plastics Manufacture and Processing)
Section cross-reference(s): 25, 35
ST ether ketone diamine prep; epoxy resin crosslinking agent; aminoaminophenoxybenzophenone; aminochlorobenzophenone reaction aminophenol; nitrobenzoyl chloride reaction chlorobenzene
IT Epoxy resins, uses and miscellaneous
RL: USES (Uses)
(crosslinking agents for, ether-ketone polyamines as)
IT Crosslinking agents
(for epoxy resins, ether-ketone polyamines as, preparation of)
IT Amines, preparation
RL: PREP (Preparation)
(poly-, ether-ketone-, manufacture of)
IT 136615-67-3P 136615-69-5P 136615-71-9P 137284-85-6P
RL: PREP (Preparation)
(crosslinked, with high strength, manufacture of)
IT 7497-60-1P, 4-Nitro-4'-chlorobenzophenone 62810-38-2P
RL: PEP (Physical, engineering or chemical process); RCT (Reactant); PREP (Preparation); PROC (Process); RACT (Reactant or reagent)
(preparation and reduction of)
IT 4913-77-3P, 4-Amino-4'-chlorobenzophenone 62261-26-1P,
3-Amino-4'-chlorobenzophenone
RL: PREP (Preparation)
(preparation of, and reaction with aminophenol)
IT 131840-88-5P 136615-66-2P 136615-68-4P 136615-70-8P
136641-60-6P
RL: PREP (Preparation)
(preparation of, as curing agent for epoxy resins)
IT 121-90-4, m-Nitrobenzoyl chloride 122-04-3, p-Nitrobenzoyl chloride
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with chlorobenzene)
IT 108-90-7, Chlorobenzene, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with nitrobenzoyl chloride)
IT 131840-88-5P 136615-68-4P
RL: PREP (Preparation)
(preparation of, as curing agent for epoxy resins)
RN 131840-88-5 HCAPLUS
CN Methanone, [(1-methylethylidene)bis(4,1-phenyleneoxy-4,1-phenylene)]bis[[4-(3-aminophenoxy)phenyl]- (9CI) (CA INDEX NAME)

PAGE 1-A



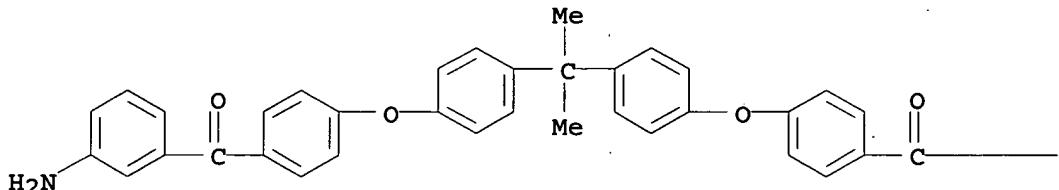
PAGE 1-B



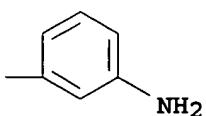
RN 136615-68-4 HCAPLUS

CN Methanone, [(1-methylethylidene)bis(4,1-phenyleneoxy-4,1-phenylene)]bis[(3-aminophenyl)- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



L21 ANSWER 31 OF 41 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1991:430043 HCAPLUS

DN 115:30043

TI Intramolecular cyclization of pendant phenylethynyl groups as a route to solvent resistance in poly(phenylquinoxalines)

AU Lindley, Patricia M.; Reinhardt, Bruce A.
CS Air Force Mater. Lab., Wright Res. and Dev. Cent., Wright-Patterson Air Force Base, OH, 45433-6533, USA
SO Journal of Polymer Science, Part A: Polymer Chemistry (1991), 29(7), 1061-71
CODEN: JPACEC; ISSN: 0887-624X
DT Journal
LA English
AB Biphenyl-based bisbenzil **monomers** containing pendent phenylethynyl groups in the 2,2'-positions were condensed with 3,3'-diaminobenzidine to prepare high-mol.-weight polyphenylquinoxalines. Thermal cure of these polymers at 193° caused an intramol. cyclization of the phenylethynyl groups to give the rigid 9-phenyldibenzanthracene system in the backbone of the polymer. The initial, uncured polymers formed tough films which were soluble in m-cresol and chlorinated solvent, but after thermal cure the films became insol. in all common organic solvents and acids while maintaining their toughness. DSC scans of the cured materials showed small residual exotherms indicating that after vitrification even the intramol. rotation required for the cyclization reaction became restricted.
CC 35-5 (Chemistry of Synthetic High Polymers)
ST polyphenylquinoxaline polyether; bisbenzil polymer aminobenzidine; phenylethynyl contg polyether polyphenylquinoxaline; intramol cyclization polyphenylquinoxaline polyether
IT Polymerization
 (of biphenyl-based bisbenzils containing pendent phenylethynyl groups, with diaminobenzidine)
IT Ring closure and formation
 (of polyphenylquinoxalines containing phenylethynyl groups)
IT Polyethers, preparation
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (polyphenylquinoxaline-, phenylethynyl- and phenyldibenzanthracene group-containing, preparation and properties of)
IT 6161-50-8, 3,3'-Dimethoxybiphenyl
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (iodination of)
IT 108057-44-9DP, thermally cyclized 108057-46-1DP, thermally cyclized 111839-22-6DP, thermally cyclized 134500-13-3DP, thermally cyclized
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (phenyldibenzanthracene group-containing, preparation and properties of)
IT 111875-87-7P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation and acidic removal of protecting groups from)
IT 111875-88-8P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation and condensation of, with nitrobenzil)
IT 19179-32-9P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation and conversion of, to alc.)
IT 54391-31-0P, 2,2'-Diiodobenzidine
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (preparation and diazotization and thermal decomposition of)
IT 111875-86-6P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (preparation and phenylethylation of)
IT 54628-94-3P 108057-43-8P 108057-45-0P 108057-47-2P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation and polymerization of, with diaminobenzidine)

IT 54628-95-4P 54724-09-3P 108057-44-9P 108057-46-1P 108057-48-3P
108093-92-1P 108136-28-3P 111839-22-6P 134500-12-2P 134500-13-3P
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(preparation and properties of)

IT 134600-81-0P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
(Reactant or reagent)
(preparation and reaction with copper phenylacetylide)

IT 19179-37-4P 111875-85-5P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
(Reactant or reagent)
(preparation and reaction with dihydropyran)

IT 134600-82-1P 134600-83-2P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
(Reactant or reagent)
(preparation and reaction with nitrobenzil)

IT 108093-91-0P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP
(Preparation); RACT (Reactant or reagent)
(preparation and reaction with phenylenediamine)

IT 19618-17-8P, 3,3'-Diiodooazoxybenzene
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
(Reactant or reagent)
(preparation and reduction and rearrangement of)

IT 108117-85-7P 108117-86-8P 134600-84-3P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of, as model compound for intramol. cycloaddn. reactions of
biphenyl-based bisbenzil monomers containing phenylethynyl
groups)

IT 95-54-5, o-Phenylenediamine, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with bis(phenylglyoxaloyloxy)phenylbenzotriphenylene)

IT 22711-24-6, 4-Nitrobenzil
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with dihydroxybis(phenylethynyl)biphenyls)

IT 25512-65-6, Dihydropyran
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with dihydroxydiiodobiphenyl)

IT 13146-23-1, Copper phenylacetylide
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with dihydroxydiiodobiphenyl bis(tetrahydropyranyl)
derivative)

IT 92-88-6, 4,4'-Dihydroxybiphenyl 612-76-0, 3,3'-Dihydroxybiphenyl
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with nitrobenzil)

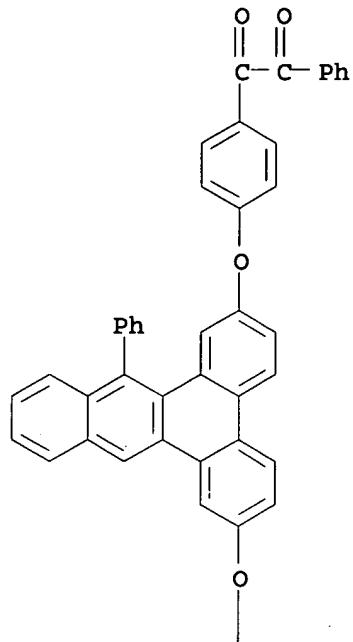
IT 645-00-1, 1-Iodo-3-nitrobenzene
RL: RCT (Reactant); RACT (Reactant or reagent)
(reduction of, with alc. sodium hydroxide solns.)

IT 108093-91-0P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP
(Preparation); RACT (Reactant or reagent)
(preparation and reaction with phenylenediamine)

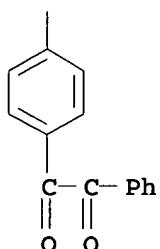
RN 108093-91-0 HCAPLUS

CN Ethanedione, 1,1'-(9-phenylbenzo[b]triphenoxy-2,7-diyl)bis(oxy-4,1-
phenylene)bis[2-phenyl- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A

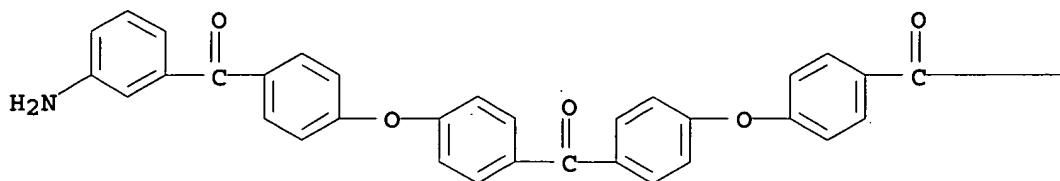


L21 ANSWER 32 OF 41 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1991:165137 HCAPLUS
DN 114:165137
TI Preparation of aromatic diamines and their maleimide derivatives for manufacture of polyimides
IN Young, Stella Margaret; Mayo, Richard Andrew
PA Imperial Chemical Industries PLC, UK
SO Eur. Pat. Appl., 12 pp.
CODEN: EPXXDW
DT Patent
LA English
FAN.CNT 1

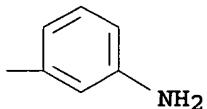
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 392680	A2	19901017	EP 1990-303007	19900320
	EP 392680	A3	19920304		

R: AT, BE, CH, DE, ES, FR, GB, IT, LI, LU, NL, SE
 GB 2230270 A1 19901017 GB 1989-8395 19890413
 JP 02292243 A2 19901203 JP 1990-93290 19900410
 PRAI GB 1989-8393 A 19890413
 GB 1989-8395 A 19890413
 OS MARPAT 114:165137
 AB Monomers ZR1XR2YR3YR2XR1Z (I) (R1 = 1,3-phenylene; R2 = 1,4-phenylene; R3 = phenylene or polyarom. groups containing ≥ 2 aromatic units linked together by CO, SO, SO₂, S, O, CMe₂, or other aliphatic groups; X = CO, SO, SO₂; Y = O, S; Z = NH₂ or maleimide radicals) are prepared and polymerized to give polyimides with low glass transition temperature (Tg) and melt viscosity. Thus, a polymer prepared by polycondensation of 0.02 mol pyromellitic anhydride with 0.02 mol I (R3 = 1,4-phenylene; X = SO₂; Y = O; Z = NH₂) was compression molded at 350° to give a clear yellow molding which had inherent viscosity 0.36 (0.5% in concentrate H₂SO₄) and Tg 257°.
 IC ICM C07C225-22
 ICS C07C317-22; C07C317-36; C07D487-04; C08G073-10
 CC 35-5 (Chemistry of Synthetic High Polymers)
 ST arom polyimide prep; polyimide compression molding; low melt viscosity polyimide prep
 IT Polyimides, preparation
 RL: PREP (Preparation)
 (aromatic, preparation of, with low glass transition temperature and melt viscosity)
 IT 132917-90-9P 133080-82-7P 133080-84-9P
 RL: RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
 (preparation and polymerization of)
 IT 1623-91-2P, 4,4'-Diphenoxydiphenyl sulfone 14984-21-5P,
 4,4'-Diphenoxylbenzophenone 115365-01-0P 132878-80-9P
 132902-88-6P 133080-80-5P 133080-81-6P 133080-83-8P
 RL: PREP (Preparation)
 (preparation of)
 IT 132852-74-5P 132852-75-6P 132852-76-7P 132852-83-6P 132878-81-0P
 132878-82-1P 132902-89-7P 132917-91-0P
 RL: PREP (Preparation)
 (preparation of, with low glass transition temperature and melt viscosity)
 IT 108-95-2, Phenol, reactions
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with difluorobenzophenone)
 IT 123-31-9, 1,4-Benzenediol, reactions
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with fluoroaminodiphenylsulfone)
 IT 64318-10-1
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with hydroquinone)
 IT 345-92-6, 4,4'-Difluorobenzophenone
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with phenol)
 IT 132917-90-9P 133080-84-9P
 RL: RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
 (preparation and polymerization of)
 RN 132917-90-9 HCAPLUS
 CN Methanone, bis[4-[4-(3-aminobenzoyl)phenoxy]phenyl]- (9CI) (CA INDEX NAME)

PAGE 1-A



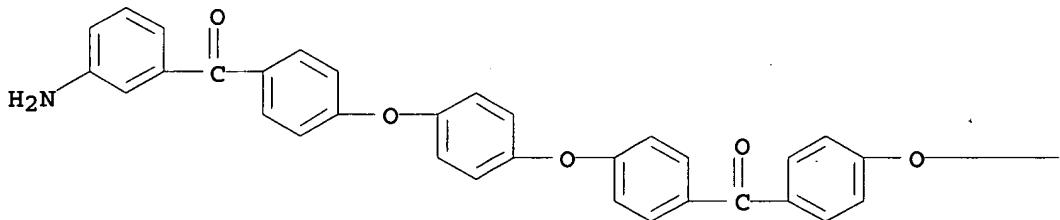
PAGE 1-B



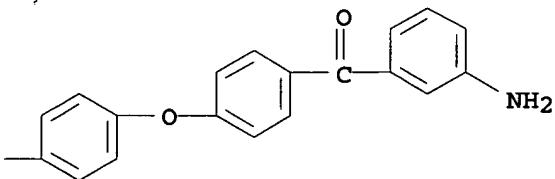
RN 133080-84-9 HCPLUS

CN Methanone, bis[4-[4-[4-(3-aminobenzoyl)phenoxy]phenoxy]phenyl]- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B

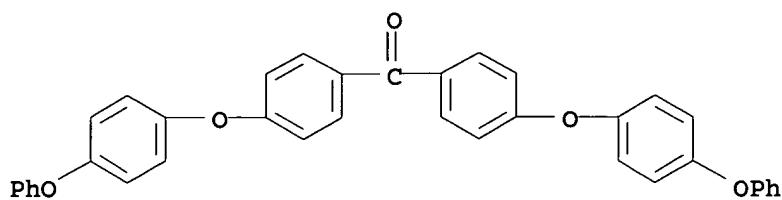


IT 115365-01-0P 133080-80-5P 133080-83-8P

RL: PREP (Preparation)
(preparation of)

RN 115365-01-0 HCPLUS

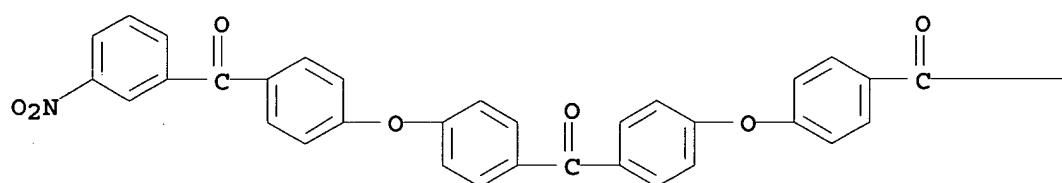
CN Methanone, bis[4-(4-phenoxyphenoxy)phenyl]- (9CI) (CA INDEX NAME)



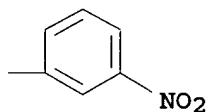
RN 133080-80-5 HCPLUS

CN Methanone, bis[4-[4-(3-nitrobenzoyl)phenoxy]phenyl]- (9CI) (CA INDEX NAME)

PAGE 1-A



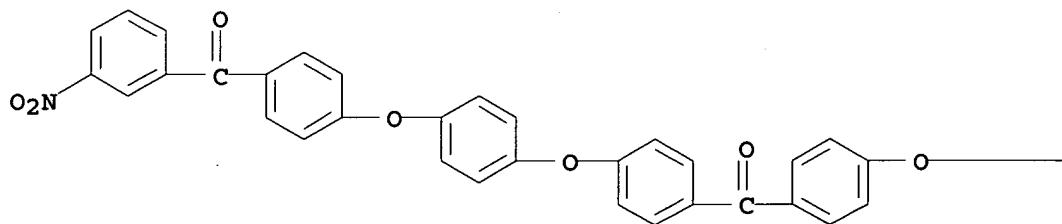
PAGE 1-B



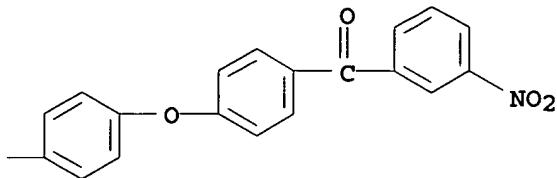
RN 133080-83-8 HCPLUS

CN Methanone, bis[4-[4-[4-(3-nitrobenzoyl)phenoxy]phenyl]- (9CI) (CA INDEX NAME)

PAGE 1-A



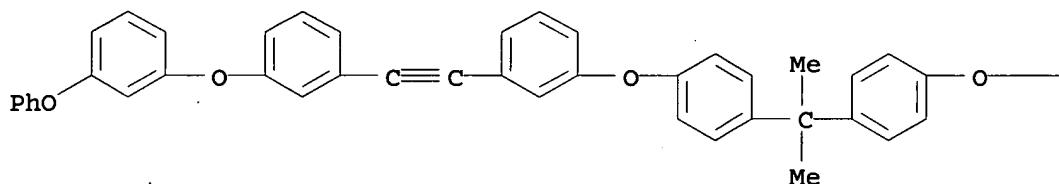
PAGE 1-B



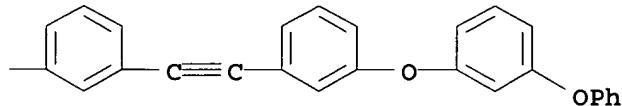
L21 ANSWER 33 OF 41 HCPLUS COPYRIGHT 2005 ACS on STN
 AN 1990:516434 HCPLUS
 DN 113:116434
 TI Thermoset resins containing sterically hindered alkyne groups for reduced crosslink density
 AU Unroe, Marilyn R.; Reinhardt, Bruce A.
 CS Nonmet. Mater. Div., Wright Res. Dev. Cent., Wright-Patterson Air Force Base, OH, 45433-6533, USA
 SO Journal of Polymer Science, Part A: Polymer Chemistry (1990), 28(8), 2207-21
 CODEN: JPACEC; ISSN: 0887-624X
 DT Journal
 LA English
 AB A series of thermoset matrix materials with phenylethynyl and phenoxyphenylethynyl end groups were prepared to assess the extent of crosslinking in the cured resins by thermoanal. and thermomech. methods. These material with varying flexibility and thermal stability of both the end group and backbone were evaluated against a group of material known to contain a substantial number of primary acetylenic thermal crosslinking sites. The evaluation indicated increased thermooxidative stability of the secondary acetylenic materials over the primary acetylenic systems at $\leq 312^\circ$. However, at $> 312^\circ$, the secondary systems were less thermooxidatively stable than the primary structures due to the thermal decomposition of the Ph pendants near $400-450^\circ$. Cure exotherms for the monomers exhibited typical Gaussian behavior with discernable cure onsets and maximum. Cure maximum for the secondary acetylene quinoxalines were close to their thermal decomposition temperature (450°). Percentages of weight retained varied 64-92% after isothermal aging at 312° for 200 h in circulating air. Glass temps. of the secondary systems more closely approximated the values calculated for linear homopolymers of similar structure. The increased linearity of the cured secondary systems was further verified by fracture anal. which indicated a 20% increase over the room temperature value of the observed fracture toughness for its comparable primary system analog.
 CC 37-6 (Plastics Manufacture and Processing)
 ST alkyne terminated resin crosslinking stability
 IT Polymerization
 (of secondary alkyne-terminated monomers, in preparation of thermoset resins)
 IT Glass temperature and transition
 (of thermoset resins from secondary alkyne-terminated monomers)
 IT Polyacetylenes, preparation
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation and thermal and mech. properties and crosslink d. of)
 IT 67317-94-6P 83694-66-0P 96250-69-0P 96250-71-4P
 96250-73-6P 96927-23-0P 96927-25-2P 96959-05-6P

129133-82-0P 129133-84-2P
 RL: PEP (Physical, engineering or chemical process); SPN (Synthetic preparation); PREP (Preparation); PROC (Process)
 (preparation and polymerization of, for thermosetting resins)
 IT 67317-95-7P 96250-68-9P 96250-70-3P 96250-72-5P 96250-74-7P
 96927-24-1P 96927-26-3P 96959-06-7P 129133-83-1P 129133-85-3P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation and thermal and mech. properties and crosslink d. of)
 IT 96250-71-4P 96250-73-6P
 RL: PEP (Physical, engineering or chemical process); SPN (Synthetic preparation); PREP (Preparation); PROC (Process)
 (preparation and polymerization of, for thermosetting resins)
 RN 96250-71-4 HCAPLUS
 CN Benzene, 1,1'-(1-methylethylidene)bis[4-[3-[[3-(3-phenoxyphenoxy)phenyl]ethynyl]phenoxy]- (9CI) (CA INDEX NAME)

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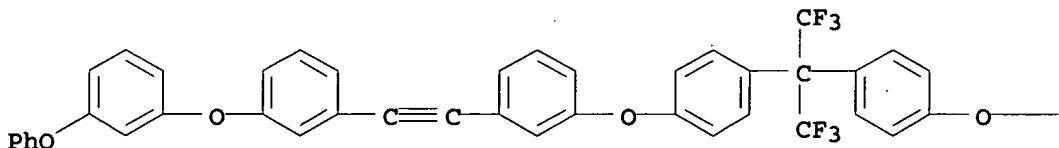
PAGE 1-B



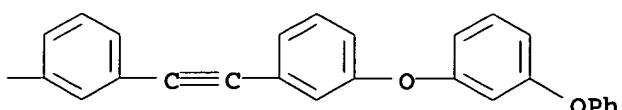
RN 96250-73-6 HCAPLUS

CN Benzene, 1,1'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[4-[3-[(3-phenoxyphenoxy)phenyl]ethynyl]phenoxy]- (9CI) (CA INDEX NAME)

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L21 ANSWER 34 OF 41 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1990:460116 HCAPLUS

DN 113:60116

TI Manufacture of aromatic polyamide-polyimides

IN Matsura, Shuichi; Suzuki, Hiroyuki; Miyadera, Yasuo

PA Hitachi Chemical Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 6 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 02011632	A2	19900116	JP 1988-160418	19880628
	JP 07119280	B4	19951220		

PRAI JP 1988-160418 19880628

AB The title polymers with good solubility in organic solvents are prepared by treating

trimellitic acid or its derivs. with monomers
(YC6H4CMe2C6H4O-p-C6H4)2X (X = CO, SO2; Y = NH2, NCO). Condensation of 45.4 g 2-(4-aminophenyl)-2-(3-hydroxyphenyl)propane with 21.8 g 4,4'-difluorobenzophenone in DMSO-PhCl at 165° for 4 h gave 45.5 g 4,4'-bis[3-(4-amino- α , α -dimethylbenzyl)phenoxy]benzophenone which (3.16 g) was heated with 0.96 g trimellitic anhydride in N-methylpyrrolidone (I) containing P(OPh)3 at 200° for 5 h to give a polymer softening at 158°, showing 5% weight loss temperature 480°, and showing good solubility in DMF, I, dioxane, THF, and glyme.

IC ICM C08G073-14

ICS C08G018-34; C08G018-76

CC 35-5 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 37

ST polyamide polyimide prepolymer; trimellitic polyamide polyimide solv; polyketone polyamide polyimide solv; polysulfone polyamide polyimide solv; aminobenzylphenoxyphenyl ketone polyamide polyimide

IT Polyketones

Polysulfones, preparation

RL: PREP (Preparation)

(polyamide-polyimide-, preparation of, with solubility in organic solvents)

IT Polyimides, preparation

RL: PREP (Preparation)

(polyamide-polyketone-, preparation of, with solubility in organic solvents)

IT Polyimides, preparation

RL: PREP (Preparation)

(polyamide-polysulfone-, preparation of, with solubility in organic solvents)

IT Polyamides, preparation

RL: PREP (Preparation)

(polyimide-polyketone-, preparation of, with solubility in organic solvents)

IT Polyamides, preparation

RL: PREP (Preparation)

(polyimide-polysulfone-, preparation of, with solubility in organic solvents)

IT 80-07-9, 4,4'-Dichlorodiphenyl sulfone 345-92-6

RL: RCT (Reactant); RACT (Reactant or reagent)

(etherification of, with [(aminophenyl)propyl]phenol)

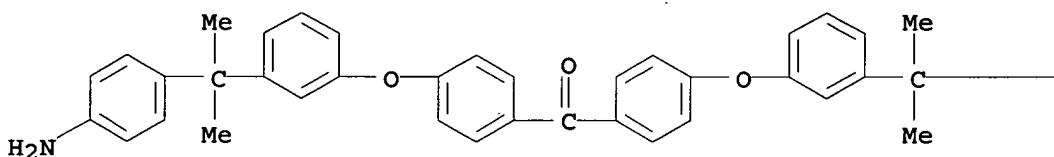
IT 111545-80-3, 2-(3-Hydroxyphenyl)-2-(4-aminophenyl)propane

RL: RCT (Reactant); RACT (Reactant or reagent)

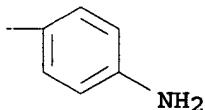
(etherification of, with difluorobenzophenone and dichlorodiphenyl sulfone)

IT 127602-03-3P 127602-05-5P
 RL: PREP (Preparation)
 (preparation of)
 IT 128013-14-9P 128013-15-0P
 RL: PREP (Preparation)
 (preparation of, with solubility in organic solvents)
 IT 127602-03-3P
 RL: PREP (Preparation)
 (preparation of)
 RN 127602-03-3 HCPLUS
 CN Methanone, bis[4-[3-[1-(4-aminophenyl)-1-methylethyl]phenoxy]phenyl]-
 (9CI) (CA INDEX NAME)

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L21 ANSWER 35 OF 41 HCPLUS COPYRIGHT 2005 ACS on STN
 AN 1990:180398 HCPLUS
 DN 112:180398
 TI Synthesis and characterization of acetylene-terminated aromatic amide resin precursors
 AU Abraham, Tonson; Soloski, Edward J.; Benner, Charles L.; Evers, Robert C.
 CS Res. Inst., Univ. Dayton, Dayton, OH, 45469-0001, USA
 SO Journal of Polymer Science, Part A: Polymer Chemistry (1989), 27(13), 4305-18
 CODEN: JPACEC; ISSN: 0887-624X
 DT Journal
 LA English
 AB A series of 10 acetylene-terminated aromatic diamide monomers was synthesized by the Et₃N-promoted reaction of bis[p-(m-chlorocarbonylphenoxy)phenyl] sulfone or bis[p-m-chlorocarbonylphenoxy)phenyl] ketone with o-, m-, or p-ethynyl- and o- or p-(trimethylsilyl)ethynyl aniline. Yields were essentially quant. Structures were verified by IR and NMR spectroscopy and mass spectral data. Thermal characteristics of the monomers were investigated by DSC and TGA. The initial monomer glass transition temps. were generally well below the onset of polymerization which occurred in the 160-225° range for the terminal ethynyl monomers and in the 260-295° range for their trimethylsilyl analogs. Onset of decomposition in air for the polymerized ethynyl-terminated monomers took place in the 400-485° range, while resins from the trimethylsilyl monomers underwent breakdown at

substantially lower temperature
CC 37-2 (Plastics Manufacture and Processing)
ST acetylene terminated arom amide **monomer**; polymn acetylene
terminated diamide
IT **Monomers**
RL: SPN (Synthetic preparation); PREP (Preparation)
(acetylene-terminated aromatic diamides, preparation and characterization
of)
IT Glass temperature and transition
Molecular structure
(of acetylene-terminated aromatic diamides)
IT Heat-resistant materials
(polymeric, from acetylene-terminated aromatic diamide **monomers**)
IT Polyketones
Polysulfones, preparation
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(polyacetylene-polyamide-polyether-, aromatic, heat-resistant, preparation
of,
from acetylene-terminated aromatic amide **monomers**)
IT Polyethers, preparation
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(polyacetylene-polyamide-polyketone-, aromatic, heat-resistant, preparation
of,
from acetylene-terminated aromatic amide **monomers**)
IT Polyethers, preparation
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(polyacetylene-polyether-polysulfone-, aromatic, heat-resistant, preparation
of, from acetylene-terminated aromatic amide **monomers**)
IT Polyamides, preparation
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(polyacetylene-polyether-polyketone-, aromatic, heat-resistant, preparation
of,
from acetylene-terminated aromatic amide **monomers**)
IT Polyamides, preparation
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(polyacetylene-polyether-polysulfone-, aromatic, heat-resistant, preparation
of, from acetylene-terminated aromatic amide **monomers**)
IT Polyacetylenes, preparation
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(polyamide-polyether-polyketone-, aromatic, heat-resistant, preparation of,
from acetylene-terminated aromatic amide **monomers**)
IT Polyacetylenes, preparation
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(polyamide-polyether-polysulfone-, aromatic, heat-resistant, preparation of,
from acetylene-terminated aromatic amide **monomers**)
IT 7681-65-4, Cuprous iodide 13965-03-2, Dichlorobis(triphenylphosphine)pal
ladium (II)
RL: CAT (Catalyst use); USES (Uses)
(catalysts, for reaction of iodoaniline with ethynyltrimethylsilane)
IT 105218-99-3P 105219-01-0P 105219-03-2P
105219-05-4P 105220-90-4P 105220-91-5P 126463-55-6P
126463-56-7P 126463-57-8P 126463-58-9P
RL: PEP (Physical, engineering or chemical process); SPN (Synthetic
preparation); PREP (Preparation); PROC (Process)
(preparation and characterization of)
IT 103529-16-4P, 2-Trimethylsilylethylnylaniline
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation and demethylsilylation of)
IT 52670-38-9P, 2-Ethylnylaniline
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT

(Reactant or reagent)
 (preparation and reaction of, with carbonyl- and
 sulfonylbis(phenyleneoxy)dibenzoyl chlorides)

IT 100580-21-0P 105220-89-1P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
 (Reactant or reagent)
 (preparation and reaction of, with ethynyl- and
 trimethylsilylethynylanilines)

IT 29924-10-5P 31739-00-1P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
 (Reactant or reagent)
 (preparation and reaction of, with thionyl chloride)

IT 105219-02-1P 105359-89-5P 126482-45-9P 126482-46-0P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation and thermooxidative stability of cured)

IT 99-06-9, m-Hydroxybenzoic acid, reactions
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with carbonyl- and sulfonylbis(fluorobenzenes))

IT 7719-09-7, Thionyl chloride
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with carbonyl- and sulfonylbis(phenyleneoxy)dibenzonic acids)

IT 615-43-0, 2-Iodoaniline
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with ethynyltrimethylsilane)

IT 345-92-6 383-29-9
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with hydroxybenzoic acid)

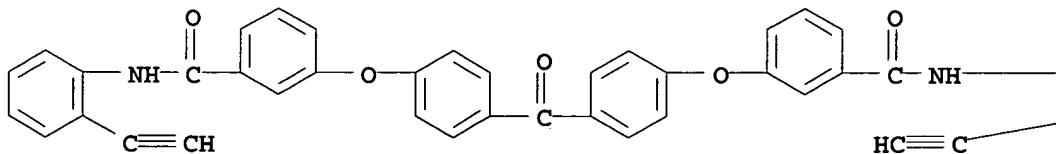
IT 1066-54-2, Ethynyltrimethylsilane
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with iodoaniline)

IT 105219-01-0P 105219-03-2P 105219-05-4P
 126463-57-8P 126463-58-9P
 RL: PEP (Physical, engineering or chemical process); SPN (Synthetic preparation); PREP (Preparation); PROC (Process)
 (preparation and characterization of)

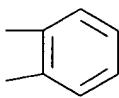
RN 105219-01-0 HCPLUS

CN Benzamide, 3,3'-[carbonylbis(4,1-phenyleneoxy)]bis[N-(2-ethynylphenyl)-
 (9CI) (CA INDEX NAME)]

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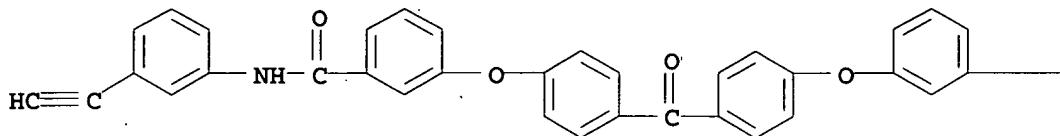
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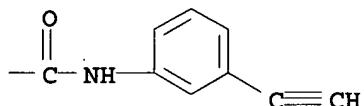
RN 105219-03-2 HCPLUS

CN Benzamide, 3,3'-[carbonylbis(4,1-phenyleneoxy)]bis[N-(3-ethynylphenyl)- (9CI) (CA INDEX NAME)]

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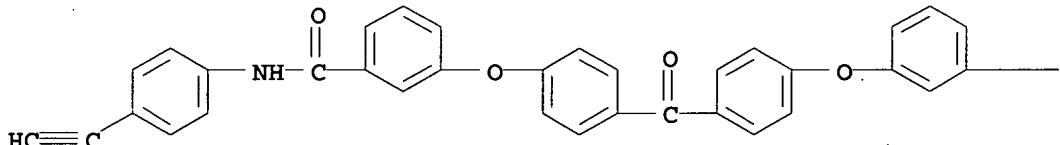
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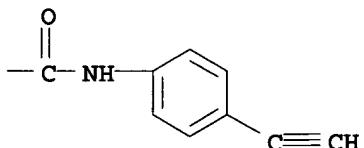
RN 105219-05-4 HCPLUS

CN Benzamide, 3,3'-[carbonylbis(4,1-phenyleneoxy)]bis[N-(4-ethynylphenyl)- (9CI) (CA INDEX NAME)]

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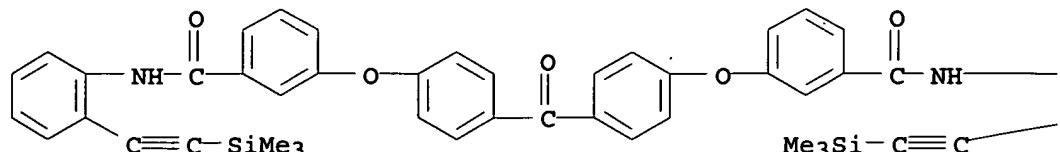
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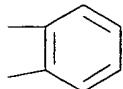
RN 126463-57-8 HCPLUS

CN Benzamide, 3,3'-[carbonylbis(4,1-phenyleneoxy)]bis[N-[2- [(trimethylsilyl)ethynyl]phenyl]- (9CI) (CA INDEX NAME)]

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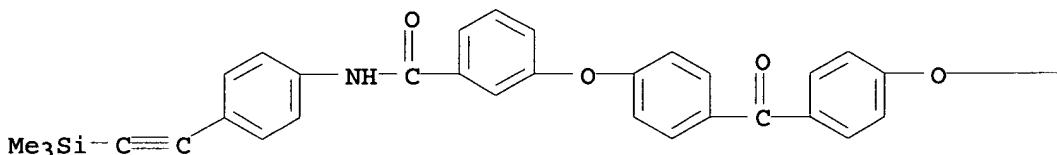


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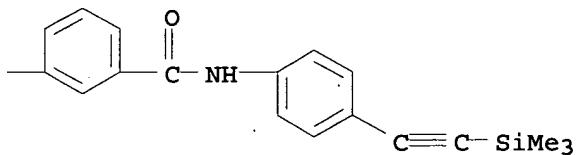


RN 126463-58-9 HCAPLUS
 CN Benzamide, 3,3'-[carbonylbis(4,1-phenyleneoxy)]bis[N-[(4-[(trimethylsilyl)ethynyl]phenyl)- (9CI) (CA INDEX NAME)]

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L21 ANSWER 36 OF 41 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1988:493804 HCAPLUS

DN 109:93804

TI Preparation of aryl carbonyl compounds

IN Towle, Ian David Henderson

PA Raychem Ltd., UK

SO Eur. Pat. Appl., 10 pp.

CODEN: EPXXDW

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 262919	A2	19880406	EP 1987-308608	19870929
	EP 262919	A3	19880720		
	EP 262919	B1	19910911		
	R: AT, BE, CH, DE, ES, FR, GB, IT, LI, NL, SE				
	AT 67171	E	19910915	AT 1987-308608	19870929
	JP 63101344	A2	19880506	JP 1987-249072	19870930
	US 4898983	A	19900206	US 1988-270401	19881107
PRAI	GB 1986-23510	A	19860930		
	US 1987-96416	B1	19870911		
	EP 1987-308608	A	19870929		
OS	MARPAT 109:93804				

AB Aryl carbonyl compds. with high degree of isomeric purity, useful for preparing poly(arylene ether ketones), are prepared with little byproduct formation by Friedel-Crafts reaction using Lewis acid catalysts in the presence of protic controlling agents such as alcs., H₂O, carboxy compds., and sulfo compds. Thus, a cooled mixture of 75 mL CH₂Cl₂ and 12.00 g AlCl₃ was treated in turn with BuOH 2.8, Ph₂O 3.22, and p-fluorobenzoyl chloride 6 g and kept 6 h at room temperature to give bis[4-(4-fluorobenzoyl)phenyl] ether in 85% yield.

IC ICM C07C045-46
ICS C07C045-47; C07C049-84; C07C049-813

CC 35-2 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 25

ST aryl ketone prepn Friedel Crafts; fluorobenzoylphenyl ether prepn Friedel Crafts; butanol control aryl ketone prep; monomer aryl ketone prep; polyether polyketone monomer prep

IT **Monomers**
RL: PREP (Preparation)
(aryl ketones, preparation of, Friedel-Crafts reaction for)

IT Friedel-Crafts reaction
(in aryl ketone preparation, control of)

IT Ketones, preparation
RL: PREP (Preparation)
(aryl, preparation of, Friedel-Crafts reaction for, control of)

IT 92-94-4, p-Terphenyl 99-63-8, 1,3-Benzene dicarbonyl dichloride 101-84-8, Diphenyl ether 324-74-3 403-43-0, 4-Fluorobenzoyl chloride 462-06-6, Fluorobenzene 543-20-4, Succinyl chloride 1623-95-6, 4-Phenoxybenzoyl chloride 2351-36-2, Naphthalene-2,6-dicarboxylic acid dichloride 2351-37-3
RL: RCT (Reactant); RACT (Reactant or reagent)
(Friedel-Crafts reaction of)

IT 65-85-0, Benzoic acid, uses and miscellaneous 71-36-3, Butanol, uses and miscellaneous 79-09-4, Propionic acid, uses and miscellaneous
RL: USES (Uses)
(aryl ketone preparation by Friedel-Crafts reaction in presence of)

IT 14984-21-5P
RL: RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(preparation and Friedel-Crafts reaction of)

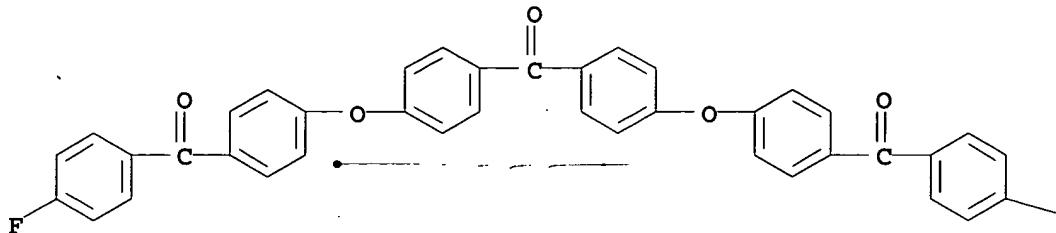
IT 14308-26-0P 16574-56-4P 40912-23-0P 68418-51-9P 95042-13-0P
95042-14-1P, 4,4'-Bis(4-fluorobenzoyl)diphenyl ether 107241-17-8P
116071-70-6P 116071-71-7P 116071-72-8P 116102-01-3P
RL: PREP (Preparation)
(preparation of, by Friedel-Crafts reaction)

IT 116071-70-6P
RL: PREP (Preparation)
(preparation of, by Friedel-Crafts reaction)

RN 116071-70-6 HCAPLUS

CN Methanone, bis[4-[4-(4-fluorobenzoyl)phenoxy]phenyl]- (9CI) (CA INDEX NAME)

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F

L21 ANSWER 37 OF 41 HCPLUS COPYRIGHT 2005 ACS on STN
 AN 1988:493722 HCPLUS
 DN 109:93722
 TI Simple synthesis of polyketones containing anthraquinone units
 AU Ueda, Mitsuru; Sugita, Hiroya; Waragai, Takako
 CS Fac. Eng., Yamagata Univ., Yamagata, 992, Japan
 SO Polymer Journal (Tokyo, Japan) (1988), 20(5), 433-7
 CODEN: POLJB8; ISSN: 0032-3896
 DT Journal
 LA English
 AB Polyketones containing anthraquinone units were prepared by the direct polycondensation of 1,5-diphenoxanthraquinone with aliphatic and aromatic dicarboxylic acids, in the presence of P2O5-methanesulfonic acid as condensing agent and solvent. Model compds. were prepared using monocarboxylic acids.
 CC 35-5 (Chemistry of Synthetic High Polymers)
 ST polyketone phenoxyanthraquinone dicarboxylic acid polymn; anthraquinone monomer dicarboxylic acid polyketone; phosphorus pentoxide condensing agent polyketone; methanesulfonic acid solvent polyketone condensation
 IT Polymerization
 (of diphenoxanthraquinone with diacids, in presence of phosphorus pentoxide-methanesulfonic acid mixts.)
 IT Polyketones
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (polyether-, diphenoxanthraquinone-containing, preparation of, in phosphorus pentoxide-methane sulfonic acid mixts.)
 IT Polyethers, preparation
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (polyketone-, diphenoxanthraquinone-containing, preparation of, in phosphorus pentoxide-methane sulfonic acid mixts.)

IT Polymer degradation
(thermal, of diphenoxanthraquinone-containing polyether-polyketones,
prepared in phosphorous pentoxide-methanesulfonic acid solution)

IT 1314-56-3, Phosphorus pentoxide, uses and miscellaneous
RL: USES (Uses)
(condensing agent, with methanesulfonic acid, for polymerization of
diphenoxanthraquinone with diacids)

IT 75-75-2, Methanesulfonic acid
RL: USES (Uses)
(condensing agent, with phosphorus pentoxide, for polymerization of
diphenoxanthraquinone with diacids)

IT 116164-00-2P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of, from benzoic acid and diphenoxanthraquinone in presence of
phosphorus pentoxide-methanesulfonic acid mixts.)

IT 116146-36-2P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of, from methoxybenzoic acid and diphenoxanthraquinone in
presence of phosphorus pentoxide-methanesulfonic acid mixts.)

IT 116146-35-1P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of, from methylbenzoic acid and diphenoxanthraquinone in
presence of phosphorus pentoxide-methanesulfonic acid mixts.)

IT 99836-34-7P 115926-86-8P 115949-45-6P 115949-46-7P 115949-47-8P
115965-10-1P 115967-57-2P 116000-51-2P 116018-32-7P 116018-33-8P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of, in phosphorous pentoxide-methanesulfonic acid solution)

IT 65-85-0, Benzoic acid, reactions 99-04-7, m-Methylbenzoic acid
100-09-4, p-Methoxybenzoic acid
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with diphenoxanthraquinone, in presence of phosphorus
pentoxide-methanesulfonic acid mixts.)

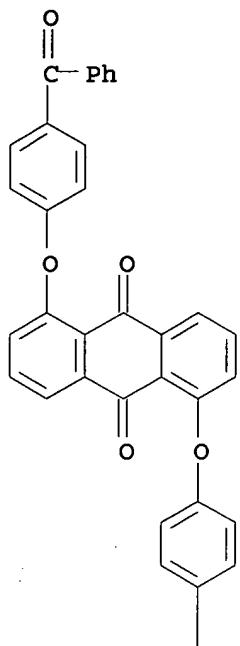
IT 82-21-3, 1,5-Diphenoxanthraquinone
RL: RCT (Reactant); RACT (Reactant or reagent)
(reactions of, with carboxylic and dicarboxylic acids, in phosphorus
pentoxide-methane sulfonic acid mixts., model compds. and polymers
from)

IT 116164-00-2P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of, from benzoic acid and diphenoxanthraquinone in presence of
phosphorus pentoxide-methanesulfonic acid mixts.)

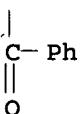
RN 116164-00-2 HCPLUS

CN 9,10-Anthracenedione, 1,5-bis(4-benzoylphenoxy) - (9CI) (CA INDEX NAME)

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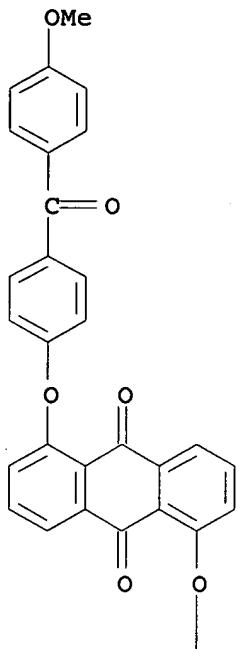
IT 116146-36-2P

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of, from methoxybenzoic acid and diphenoxyanthraquinone in
presence of phosphorus pentoxide-methanesulfonic acid mixts.)

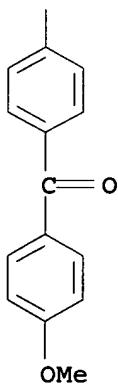
RN 116146-36-2 HCAPLUS

CN 9,10-Anthracenedione, 1,5-bis[4-(4-methoxybenzoyl)phenoxy]- (9CI) (CA
INDEX NAME)

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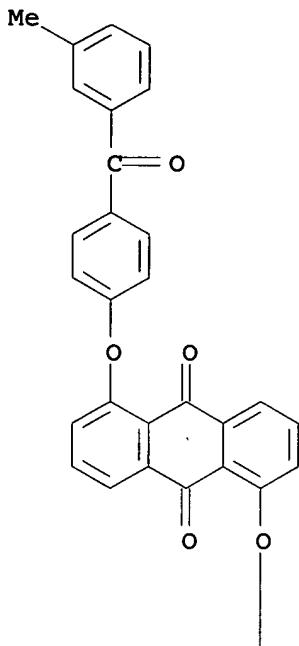
IT 116146-35-1P

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of, from methylbenzoic acid and diphenoxyanthraquinone in
presence of phosphorus pentoxide-methanesulfonic acid mixts.)

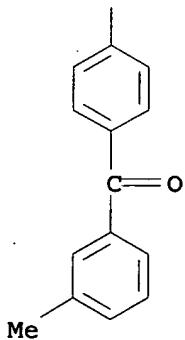
RN 116146-35-1 HCAPLUS

CN 9,10-Anthracenedione, 1,5-bis[4-(3-methylbenzoyl)phenoxy]- (9CI) (CA
INDEX NAME)

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L21 ANSWER 38 OF 41 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1985:422954 HCAPLUS
DN 103:22954
TI The synthesis and properties of novel monomers containing aryl and aryloxyethynyl groups
AU Unroe, M. R.; Reinhardt, B. A.; Arnold, F. E.
CS Air Force Wright Aeronaut. Lab., Wright-Patterson Air Force Base, OH, 45433, USA
SO Polymer Preprints (American Chemical Society, Division of Polymer Chemistry) (1985), 26(1), 136-7
CODEN: ACPPAY; ISSN: 0032-3934
DT Journal
LA English

OS CASREACT 103:22954
 AB The title **monomers**, Z(1,3-C6H4C...CR)2 (Z = aromatic doubling radical; R = Ph, H, C6H4OC6H4OPh, C6H4OC6H4SO2Ph), were prepared and their thermal and thermomech. properties were determined, as well as those of their homopolymers.
 CC 35-2 (Chemistry of Synthetic High Polymers)
 ST ethenyl **monomer** polymer thermal property; aryl ethenyl **monomer** polymer thermal property; aryloxyethynyl **monomer** polymer thermal property; glass temp ethenyl polymer
 IT Heat-resistant materials
 (acetylene derivative polymers)
 IT Glass temperature and transition
 (of acetylene derivative polymers)
 IT Polymerization
 (of acetylene derivs.)
 IT Polyacetylenes
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (preparation and thermal properties of)
 IT 51624-44-3
 RL: USES (Uses)
 (dehydration by, of bis(dicarboxyphenyl)hexafluoropropane dianhydride amic acid)
 IT 96959-03-4P
 RL: PEP (Physical, engineering or chemical process); SPN (Synthetic preparation); PREP (Preparation); PROC (Process)
 (preparation and dehydration of)
 IT 67317-94-6P 67317-95-7P 83694-66-0P 96250-68-9P 96250-69-0P
 96250-70-3P 96250-71-4P 96250-72-5P 96250-73-6P
 96250-74-7P 96927-23-0P 96927-24-1P 96927-25-2P 96927-26-3P
 96959-05-6P 96959-06-7P 97046-91-8P 97046-92-9P 97105-54-9P
 97105-55-0P
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (preparation and thermal properties of)
 IT 75013-38-6 75142-98-2
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with (bromophenoxy)benzil)
 IT 91-95-2 2676-59-7
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with benzil derivs.)
 IT 536-74-3
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with bis(bromophenoxy)benzene or
 bis(bromophenoxy)diphenyl sulfone)
 IT 22711-24-6
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with bromophenol)
 IT 96990-61-3 96990-62-4
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with diaminobenzidine or tetraaminodiphenyl ether)
 IT 83694-70-6
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with monoacetylene compds.)
 IT 591-20-8
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with nitrobenzil)
 IT 32220-74-9 79915-96-1
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with phenylacetylene)
 IT 29338-47-4

RL: RCT (Reactant); RACT (Reactant or reagent)
(reduction of)

IT 96250-71-4P 96250-73-6P

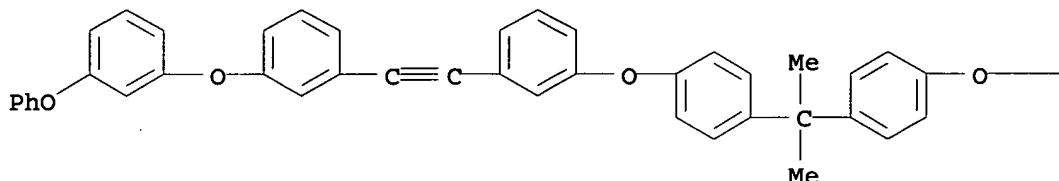
RL: PRP (Properties); SPN (Synthetic preparation); PREP
(Preparation)

(preparation and thermal properties of)

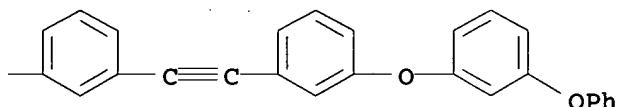
RN 96250-71-4 HCPLUS

CN Benzene, 1,1'-(1-methylethylidene)bis[4-[3-[[3-(3-
phenoxyphenoxy)phenyl]ethynyl]phenoxy]- (9CI) (CA INDEX NAME)

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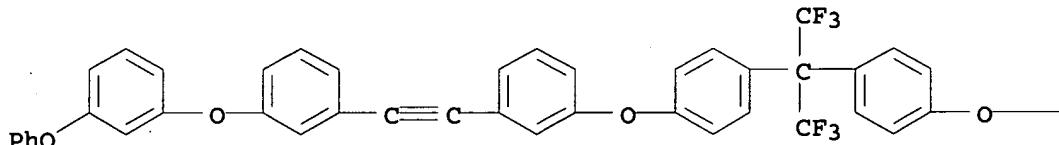
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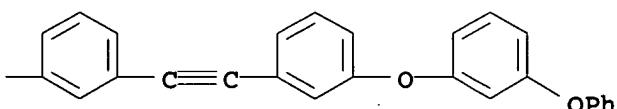
RN 96250-73-6 HCPLUS

CN Benzene, 1,1'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[4-[3-[[3-(3-phenoxyphenoxy)phenyl]ethynyl]phenoxy]- (9CI) (CA INDEX NAME)

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L21 ANSWER 39 OF 41 HCPLUS COPYRIGHT 2005 ACS on STN

AN 1984:34975 HCPLUS

DN 100:34975

TI Polyphenol allyl derivatives useful in polymerization and crosslinking

IN Laval, Francois; Madec, Pierre Jean; Marechal, Ernest

PA Commissariat a l'Energie Atomique , Fr.
 SO Eur. Pat. Appl., 29 pp.
 CODEN: EPXXDW

DT Patent
 LA French

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 88027	A1	19830907	EP 1983-400429	19830302
	EP 88027	B1	19860312		
	R: DE, GB, IT, NL				
	FR 2522649	A1	19830909	FR 1982-3522	19820303
	FR 2522649	B1	19870710		
	JP 58164537	A2	19830929	JP 1983-33914	19830303
	US 4647642	A	19870303	US 1985-707534	19850304
PRAI	FR 1982-3522	A	19820303		
	US 1983-471537	A1	19830302		

AB The title compds. are prepared by the reaction of polyphenols with allyl glycidyl ether (I) [106-92-3]. Thus, adding 10 g C12H25NMe2 to 228 g bisphenol A [80-05-7] and 228 g I stirred at 120° and stirring 2 h at this temperature gave 466 g bisphenol A bis[3-(allyloxy)-2-hydroxypropyl] ether [63119-89-1]. Heating 456 g this compound, 134 g O(SiHMe2)2, and 1 mL 1% H2PtCl6 slowly to and 1 h at 70° gave a transparent block polymer [88266-84-6], mol. weight >10,000, which was readily soluble in organic solvents.

IC C07C043-23; C07C049-84; C07C069-96; C07C147-06; C08F016-32; C08G018-32; C08G077-42; C07C041-03

CC 35-2 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 25

ST bisphenol A allyloxyhydroxypropyl ether; allyl glycidyl ether reaction polyphenol; allyloxyhydroxypropyl ether polyphenol; siloxane polyether manuf; tetramethyldisiloxane polymn allyloxyhydroxypropyl ether

IT Urethane polymers, preparation

RL: IMF (Industrial manufacture); PREP (Preparation)
 (manufacture of, from bisphenol (allyloxy)hydroxypropyl ether)

IT Siloxanes and Silicones, preparation

RL: IMF (Industrial manufacture); PREP (Preparation)
 (polyether-, manufacture of, intermediates for)

IT Siloxanes and Silicones, preparation

RL: IMF (Industrial manufacture); PREP (Preparation)
 (polyether-, manufacture of, monomers for)

IT Siloxanes and Silicones, preparation

RL: IMF (Industrial manufacture); PREP (Preparation)
 (polysulfone-, manufacture of, intermediates for)

IT Siloxanes and Silicones, preparation

RL: IMF (Industrial manufacture); PREP (Preparation)
 (polysulfone-, manufacture of, monomers for)

IT Polyethers

Polysulfones

RL: IMF (Industrial manufacture); PREP (Preparation)
 (siloxane-, manufacture of, intermediates for)

IT Polyethers

Polysulfones

RL: IMF (Industrial manufacture); PREP (Preparation)
 (siloxane-, manufacture of, monomers for)

IT 63119-89-1DP, polymers with hydrogen-terminated siloxanes 88215-56-9P
 88266-84-6P 88266-85-7P 88266-86-8P 88266-87-9P 88384-62-7P

RL: IMF (Industrial manufacture); PRP (Properties); PREP (Preparation)
 (manufacture and properties of)

IT 63119-89-1P 88216-39-1P

RL: PREP (Preparation)

(preparation of)

IT 80-05-7, reactions 88216-38-0

RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with allyl glycidyl ether)

IT 106-92-3

RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with polyphenols)

IT 88216-39-1P

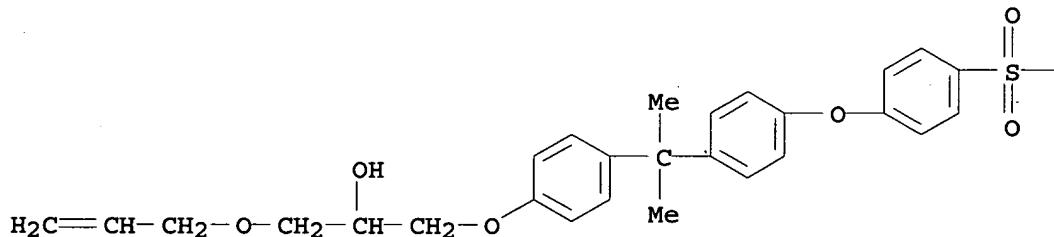
RL: PREP (Preparation)

(preparation of)

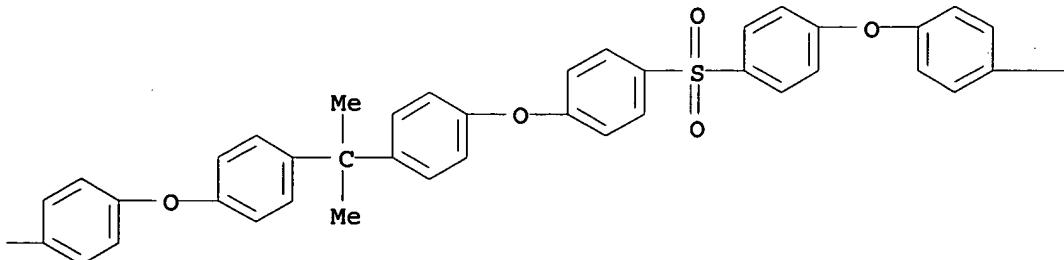
RN 88216-39-1 HCAPLUS

CN 2-Propanol, 1,1'-[(1-methylethylidene)bis[4,1-phenyleneoxy-4,1-phenylenesulfonyl-4,1-phenyleneoxy-4,1-phenylene(1-methylethylidene)-4,1-phenyleneoxy-4,1-phenylenesulfonyl-4,1-phenyleneoxy-4,1-phenylene(1-methylethylidene)-4,1-phenyleneoxy]]bis[3-(2-propenyl)- (9CI) (CA INDEX NAME)

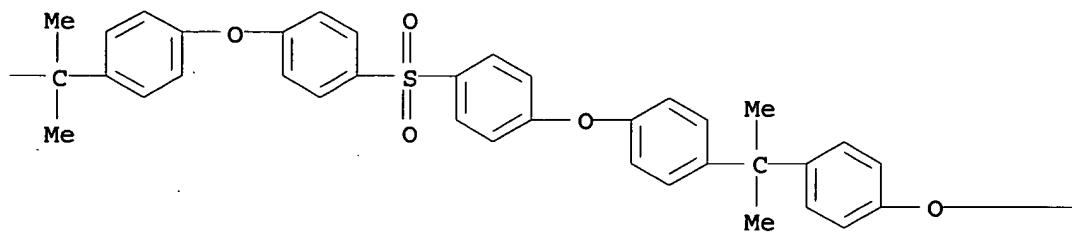
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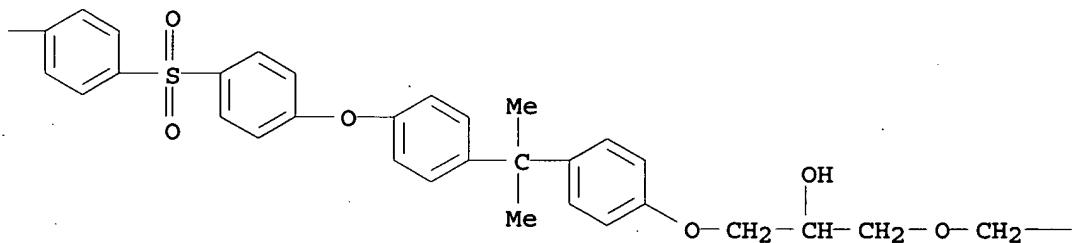
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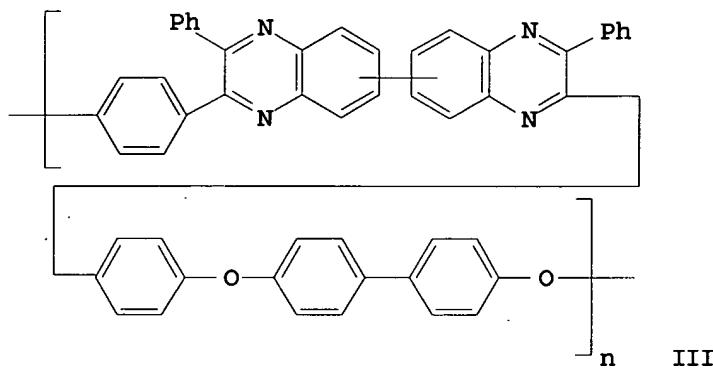
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— CH=CH₂

L21 ANSWER 40 OF 41 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1978:23447 HCAPLUS

KATHLEEN FULLER EIC 1700 REMSON 4B28 571/272-2505

DN 88:23447
 TI Diether polyphenylquinoxalines. **Monomers** via nitro displacement. Carbon-13 NMR analysis of **monomers** and polymers
 AU Relles, H. M.; Orlando, C. M.; Heath, D. R.; Schluenz, R. W.; Manello, J. S.; Hoff, S.
 CS Res. Dev. Cent., Gen. Electr., Schenectady, NY, USA
 SO Journal of Polymer Science, Polymer Chemistry Edition (1977), 15(10), 2441-51
 CODEN: JPLCAT; ISSN: 0449-296X
 DT Journal
 LA English
 GI



AB Bisbenzils (I) were prepared by nucleophilic aromatic nitro displacement reactions and the I, some model compds., and some polyphenylquinoxaline polymers prepared from them were analyzed by ^{13}C NMR. Thus, 4,4'-bis(4-benzilyloxy)biphenyl (II) [54628-94-3] was polymerized with 3,3',4,4'-tetraaminodiphenyl ether to give the polyphenylquinoxaline III [54724-09-3]. II was prepared by reaction of 4-nitrobenzil [22711-24-6] with 4-methylphenol [106-44-5] in DMSO.
 CC 35-3 (Synthetic High Polymers)
 Section cross-reference(s): 25
 ST quinoxaline dériv polymer NMR; benzil prepn nitro displacement; carbon 13 NMR polyquinoxaline; nitrobenzil reaction cresol
 IT Nitro group
 (displacement of, in preparation of bisbenzils)
 IT Nuclear magnetic resonance
 (of carbon-13, in polyphenylquinoxalines)
 IT 65012-56-8P 65012-57-9P 65012-58-0P
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (preparation and NMR of)
 IT 16478-99-2P 54628-95-4P 54628-96-5P 54628-97-6P 54668-05-2P
 54724-09-3P 54724-10-6P 54724-11-7P 54724-12-8P 59964-09-9P
 59979-75-8P
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (preparation and carbon-13 NMR of)
 IT 54628-92-1P 54628-94-3P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP
 (Preparation); RACT (Reactant or reagent)
 (preparation and polymerization of)
 IT 2676-59-7
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with benzil)

IT 22711-24-6
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with methylphenol)

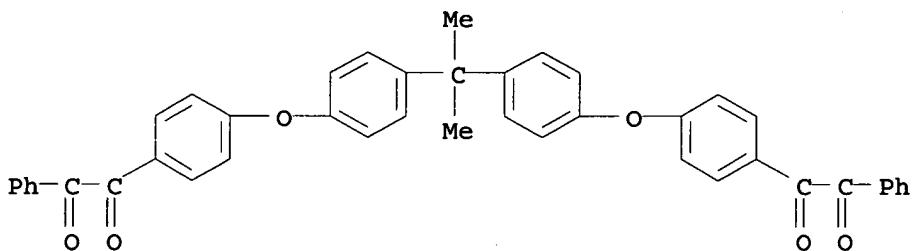
IT 80-05-7, reactions 92-88-6 106-44-5, reactions 123-31-9, reactions 1965-09-9
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with nitrobenzil)

IT 134-81-6
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with tetraaminodiphenyl ether)

IT 54628-92-1P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP
 (Preparation); RACT (Reactant or reagent)
 (preparation and polymerization of)

RN 54628-92-1 HCPLUS

CN Ethanedione, 1,1'-(1-methylethylidene)bis(4,1-phenyleneoxy-4,1-phenylene)bis[2-phenyl- (9CI) (CA INDEX NAME)

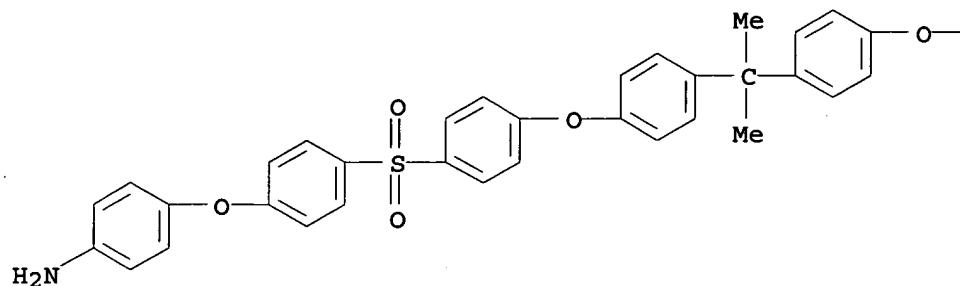


L21 ANSWER 41 OF 41 HCPLUS COPYRIGHT 2005 ACS on STN
 AN 1975:593786 HCPLUS
 DN 83:193786
 TI Synthesis and structure-property relations in high temperature polymer systems based on aromatic diamines
 AU Brode, George L.; Kawakami, James H.; Kwiatkowski, George T.; Bedwin, Albert W.
 CS Res. Dev. Dep., Union Carbide Corp., Bound Brook, NJ, USA
 SO Advances in Chemistry Series (1975), 142(Copolym., Polyblends, Compos., Symp., 1974), 343-53
 CODEN: ADCSAJ; ISSN: 0065-2393
 DT Journal
 LA English
 AB Aromatic sulfone ether diamines, prepared by a nucleophilic displacement reaction in an aprotic solvent of Na p-aminophenol [15267-98-8] or a bisphenol salt with an aromatic sulfonyl halide, were condensed with aromatic polycarboxylic acid anhydrides or chlorides to give polyamide-imides with good heat stability, solvent resistance, and impact strength, and high glass transition temperature (Tg). 4,4'-(Sulfonyl bis(p-phenyleneoxy))dianiline (I) [13080-89-2] and polyether diamines based on bisphenol A [80-05-7] and hydroquinone [123-31-9] were prepared and used as monomers. I was treated with isophthaloyl or terephthaloyl chloride, trimellitic acid anhydride or chloride, benzophenone tetracarboxylic acid anhydride, and pyromellitic acid anhydride to give polyimides with Tg 230-320°, tensile modulus 270,000-440,000 psi, elongation at break 8-15%, and pendulum impact strength 70-197 ft lb/in³. 4,4'-Diaminodiphenyl sulfone and the monomers prepared from the bisphenols were reacted with trimellitoyl chloride to give polyamide-imides with Tg 180-350°,

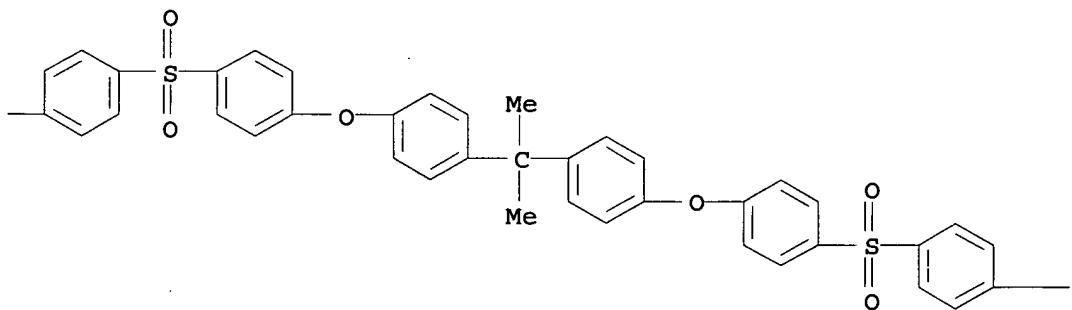
tensile modulus 270,000-425,000 psi, tensile strength 10,000-14,000 psi, and elongation at break 8.5-50%. Polymers with high amide-imide or imide weight contributions in the repeat unit had good resistances to environmental stress aging whereas polyamide-imides containing the diphenylisopropylidene structure had only fair resistance. The polar diphenylsulfone unit and the rigid, polar, amide-imide units were primarily responsible for the high Tg values. The polymers had initial weight loss at 350-400° in air. Polyamide-imides based on I, the bisphenol A-based polyether diamines and the polyimide based on benzophenone tetracarboxylic dianhydride had the best flow properties and were most suitable for molding.

CC 35-3 (Synthetic High Polymers)
 ST sulfone ether diamine polymer; polyamide imide
 sulfonylphenyleneoxydianiline; polyimide amide
 sulfonylphenyleneoxydianiline; heat resistance polyamide imide
 IT Polyimides
 RL: USES (Uses)
 (amide-, aromatic sulfone ether diamine-based, heat-resistant)
 IT Polyamides, preparation
 RL: PREP (Preparation)
 (imide-, aromatic sulfone ether diamine-based, heat-resistant)
 IT Glass temperature and transition
 (of polyamide-imides prepared from aromatic sulfone ether diamines)
 IT Heat-resistant materials
 (polyamide-imide, aromatic sulfone ether diamine-based)
 IT 25135-51-7 26912-99-2 26913-00-8 27553-90-8 29896-48-8
 31800-86-9 52319-42-3 52319-43-4 52319-44-5 52319-45-6
 52858-23-8 56585-71-8 57216-44-1 57216-46-3
 RL: USES (Uses)
 (heat-resistant)
 IT 13080-89-2P 52858-24-9P 52925-91-4P 54139-50-3P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of)
 IT 80-05-7, reactions 123-31-9, reactions 15267-98-8
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with aromatic sulfonyl chlorides)
 IT 52858-24-9P 52925-91-4P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of)
 RN 52858-24-9 HCAPLUS
 CN Benzenamine, 4,4'-(sulfonylbis[4,1-phenyleneoxy-4,1-phenylene(1-methylethylidene)-4,1-phenyleneoxy-4,1-phenylenesulfonyl-4,1-phenyleneoxy])bis- (9CI) (CA INDEX NAME)

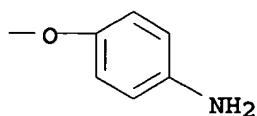
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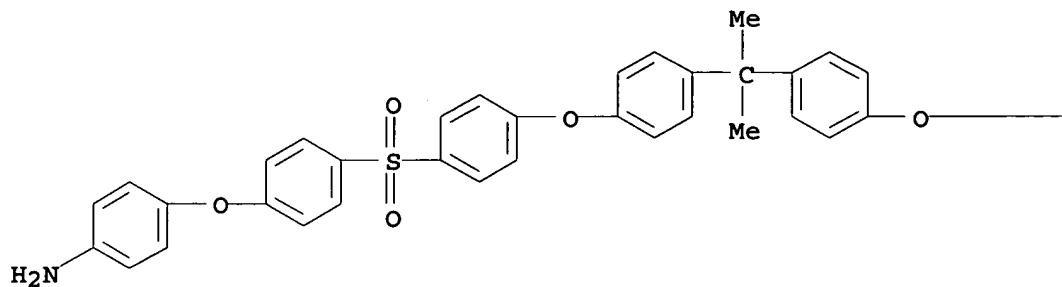
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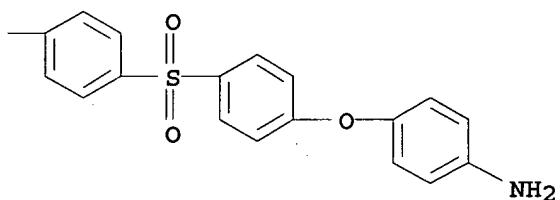
RN 52925-91-4 HCPLUS

CN Benzenamine, 4,4'-[1-(methylmethylened)bis(4,1-phenyleneoxy-4,1-phenylene sulfoneyl-4,1-phenyleneoxy)]bis- (9CI) (CA INDEX NAME)

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